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NO1 JUNE 1992

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CPC CREW

The wicked words:

EDITOR
Pat Kelly
SUB-EDITORS
Lisa Davis
Jayne Organ
CONTRIBUTORS
Bob Adams, Vic Barnes, Glynne Davies, Richard Fairhurst, Roy Wilkinson
Q&A CONSULTANTS
Vic Barnes, Glynne Davies, Simon Watson

The hardcore art:

ORIGINAL DESIGN AND COVER
Steve Hicks
DESIGNER
Paul Ellis
DESIGN CONTRIBUTORS
Kate Bowen
Trevor Giles
The RP crew
ILLUSTRATOR
Stuart Harrison
COVER ILLUSTRATOR
Gary Ward

The groovy ads:

GROUP AD MANAGER
Alan Talbot
AD MANAGER
Richard Vaughan
ASST. AD MANAGER
Liz Edgar

Getting it all together:

PRODUCTION CONTROLLER
Jayne Penfold
PRODUCTION EXECUTIVE
Rachel Dixon

The management:

GROUP EDITOR
John Taylor
PUBLISHING DIRECTOR
Wendy Palmer

DEPUTY MD CONSUMER MAGAZINES & MARKETING SERVICES
Ray Lewis

MD CONSUMER MAGAZINES & MARKETING SERVICES
Peter Welham

CPC ATTACK,
Floor 3, Greater London House, Hampstead Road, LONDON NW1 7QQ
Tel: 071 388-3171
Fax: 071 387-9518

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ABC
When your this good, who needs 'em?

SPECIAL THANKS
To OJ Software for supplying some of the games for the Top 50.
To Rock Power (the best Rock Music magazine in Europe) for the use of their screen grabbing equipment.
To everyone else that knows us.

CONTACT

Is there something we should know? Need help on technical matters or games? Want to get something out in the open? Then you need a contact.

You can be certain of getting your enquiry answered within the magazine if you address your letter to the right person or department. We can't personally reply to enquiries, either by telephone or post, but, you can reach us by writing or faxing to the listed departments at:

CPC ATTACK, HHL Publishing, Floor 3, Greater London House, Hampstead Road, London. NW1 7QQ
or
FAX: 071-387-9518

P.S. If you have a problem with any advertising company in the magazine, you can always call our advertising department as long as it's between normal working hours. They are always available to help with your problems.

CPC Q&A

Always ready to answer your problems, the technical help section is crammed with helpful advice, tips and readers' problems. If you have any advice or handy tips to offer, send them in - prizes awarded for every tip.

LETTERS

If you ever feel the need to express yourself, want to tell the world how wonderful you are, how crap a program is or if you wish to join in the topical forum, then get scribbling.

SUBMISSIONS

We are always on the look out for interesting and topical articles for publication. If you have a special set-up, or know of a special utility, you could write an article about it for CPC ATTACK. You could become a regular contributor, earning lots of money for your work.

PROGRAM LISTINGS

Listings and 10-Liners are superb learning ground for would be programmers, and they also provide excellent utilities and games. In CPC ATTACK, all listings are treated as submissions and, as such, contributors are paid real cash. Please remember to include a disc or tape with the listing on it!

AMY'S PMT

Whether you want to give pokes, maps, tips (and cheats) or want to get some, this is the place to do it. Lotsa prizes to be won each and every month for the best submissions published.

CLASSIFIED

Not only for getting rid of your old equipment and grabbing a great bargain, but also for CPC contacts and user groups. The best way to sell your product.

COMPETITIONS

Lots and lots of COMPO's. That's what we'll be striving to offer. You can win quite easily, but you'll have to get your entry into the correct hat! Any competition wrongly addressed goes straight into the dustcart.

Don't put any letters or tips into a competition submissions as we don't open them unless to check if a winner's answers are correct.

CPC ATTACK! DIRECT

If you want to place an order, or have any problems with the service then please write, or call 071-388-3171 and quote CPC ATTACK! DIRECT.

SUBSCRIPTIONS

The subscription department is in a totally different office at a completely different location. If you want to subscribe or notify of a change of address you can either send of your details to the address below:
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HHL Subscription Department, Lazahold Ltd., PO Box 10, Roper Street, Pallion Industrial Estate, Sunderland. SR4 6SN.
TEL: 091-510-8787
FAX: 091 510-0155

CPC Attack!



Welcome to CPC ATTACK!

Whether you're new to the CPC scene, or an old hand, you'll get the best out of your machine with ATTACK! - the CPC's biggest and best magazine - it's 68 pages big! We've got the major backing of the industry - we're already their official top CPC magazine - and we don't mind shouting about it.

You should also find because we have more advertisers than the competition, you'll not be short of somewhere to buy your products - with lots more choice!

In this launch issue, we've taken a lot of time to compile our Top 50 chart from which new games will be judged. The 3D poster and super competitions kick-off the host of freebies you'll come to expect over the coming months - you'll not get short changed with ATTACK! There are also plenty of technical features, tutorials and a massive teccy Q&A section to keep you well in the know.

Lemmings will prove to be one of the big releases of all time and - as we're already THE only CPC magazine worth reading - we were given the exclusive review.

If you think this issue was bogus, wait till next month, where we've oodles extra developments in store for you.

Quite Excellent.

REGULARS

8 NEWS Two great flight sim joysticks, a great new Codie game, plus a great offer.

10 LETTERS What has a hazelnut in every bite?

38 POKES, MAPS and TIPS The best tips section about; with multiface pokes, keypress cheats, and a super Correspondence helpline!

42 THE DUNGEON There's lots happening in these here dark and gungey corners of the adventure pages, with news, reviews, and help

48 PUBLIC SECTOR Public Domain, fanzines and services - is there anything NOT in these pages

60 Q&A Five mammoth pages of advice, help and tips on everything you ever wanted to know.

66 NEXT MONTH Can't wait till the next issue? Neither can we - find out what to expect

19 TOP 50 The top 50 games listed and rated in the most comprehensive CPC games round-up ever seen.

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50 DEMO TIME Write a scrolly, and learn the secrets of the demo crews in this great assembly language tutorial.

52 ELEMENTARY BASIC BASIC may not be all that simple as its name implies, but we make it easy to learn.

55 ADVANCED BASIC This month-by-month guide unveils the secrets of getting more out of your BASIC programs.



MEET AMY STRADAVARIUS

Daughter of fabulously wealthy Viscount Stradavarius, she ran away from home aged 11 and now exists on a diet of pot noodles and video games. Ruff, tuff and fairly stupid she's the hippest juve ever to use a joystick!

6 COMPETITIONS WIN a 24-pin printer, Lemmings, or 10 games from the Top 50 in our excellent compos.

13 CONSOLE CRAZY The whole world's doing it! Kids are swapping their headphones for joysticks, rock Bands are getting in on it, and it's time you did too! But, hey - don't go console crazy yet - read this great guide!

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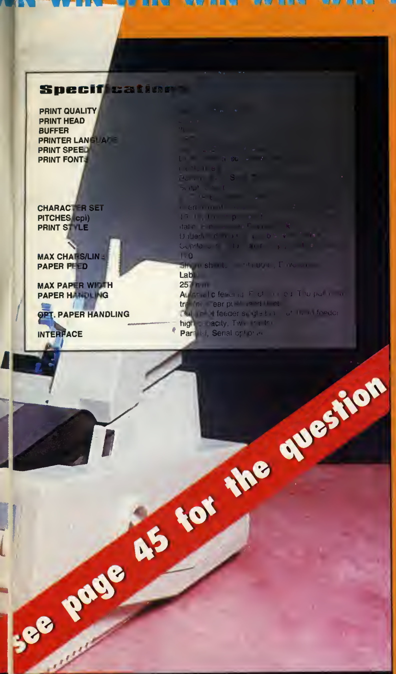
37 SUBSCRIPTION Make sure you get every copy of the mag - get it delivered!

20 LEMMINGS The exclusive CPC review of the game that'll take the CPC by storm this summer.

COMPETITIONS









Welcome to the pages where you get access to not only one, but several great competition prizes. Fill in the coupon with the answers to the individual competitions. You'll find the questions throughout the magazine - see the competition for relevent page numbers. You don't need to answer all the questions - each competition is completely separate, so only apply to the competitions you want to. But it's best to apply to them all - there is no penalty for being greedy!

ENTRY FORM

Find the questions on the pages specified and write the answers below:

The answer to the Epson LQ-570 question is..................

....

The answer to the Lemmings question is.........................

....

If I win I'd like my game on tape/disc* (*please highlight required format)

The answer to the Top 50 question is..............................

....

If I win I'd like my 10 games on tape/disc* (*please highlight required format)

These games are compiled randomly from the Top 50 games. Choices cannot be made.

Name..

Address..

....

Tel No:..

Send your entry to:

JUNE COMPETITION, CPC ATTACK,
HHL Publishing, Greater London House, Hampstead Road, London NW1 7QQ
or FAX: 071-387 9518

no later than 4th June 1992 (i.e when the next issue comes out).

RULES:

The judge's decision is final. The prize winners will be drawn from ell entries whether correct or incorrect 4 weeks after the publication date. Only correct entries cen win. In the event of an incorrect entry being drawn enother will be drawn until a correct entry is found. It is not wise to submit other correspondence with competition entries (and vice-versa) as your envelope may not be opened at elll In the event of sponsors defaulting on prizes, replacement prizes of a similar value will be given. No cash alternatives mey be offered. No written or verbal communication will be entered into, other than at the judge's discretion. Big, pink, long, end perfumed envelopes will be confiscated. Multiple entries are not allowed unless separate on genuine forms - no photocopies. The addresses of culprits found to be breaking any of the above rules will be compiled into a black list end sent to Readers Digest. They may elso be punished with e free subscription to Amstrad Action.

KNOW SOMETHING WE DON'T?
PHONE 071-388-3171 and ask for the ATTACK HOTLINE

SNIPPETS

WACCI OFFER

Public Domain User Group, Wacci, have three MicroDesign discs available at no charge other than a disc and SAE. Contact: Wacci, 0604 725108

DEBUT DATABASE

AOKsoft is a new company which is releasing its debut package, proBASE+, a CPC database for the 464/664/6128. ProBASE+ can create and organise files of up to 10 fields, with 200 records per file. Featuring most of the functions which are found in many low-cost database systems, proBASE+ costs £16.99. The packaging of the program leaves something to be desired and comprises a home-made cardboard wallet, a badly photocopied manual, and a used disk with a label typed on. However, it may be a good product and we will be reviewing it soon. If you want more information you can contact AOKsoft at 155 Haslucks Green Road, Shirley, Solihull B90 2LG.

PCW CONVERSIONS

Lots of PCW material has been converted to the CPC in MicroDesign format and are available in 64k and 128k. Contact: Goldmark Systems, 0707 271529

SEIKOSHA PRICE CUT

Seikosha have reduced the prices of selected printers. For example, the SL92 model has been upgraded with seven new fonts, rebadged as the SL92 Plus, and reduced from £335 to £280. Contact: Seikosha, 0753 685873

STAR LC24-20

Star have a replacement for their LC24-10 entry level 24-pin printer. The LC24-20, aimed at users in the home as well as schools and business, costs £259.00+VAT and features 10 LQ fonts including italics. The printer is the first Star to feature a custom-designed LCD panel which Star claims is more user-friendly than any before it. Star are really excited about this printer because it features specifications normally associated with more upmarket printers. Contact: Star Micronics, 0494 471111

CPC MAPS

Campersoft are releasing parish (religious), British, and world maps available in both 64k and 128k formats. Contact: 041 554 4735.

NE

ELSPA CHARTALK SPEAKS VOLUMES

They say that the Amstrad CPC games scene is dying, but **CPC ATTACK!** can reveal that demand is as big as ever.

Well...according to industry sources, via the ELSPA CHARTALK, the CPC market share of unit games sales is a whopping 7.0%. Broken down, this gives a full-price share of 7.1%, a budget share of 10.4%, and an insignificant Cartridge share. These percentage shares are bound to go down, not because of lack of demand, but rather because of lack of support. Many large games stores have already abandoned stocking CPC games and as they stop being released, players will no longer be able to buy new games.

The remarkable statistic is that the CPC has the same unit sales share as the Atari ST (7.0%), and only 0.4% less than Sega Masterdrive (7.4%), and 0.6% MORE than the thriving Sega Megadrive (6.4%).

As CPC games tend to sell for a lower price than the Atari ST or Segas, it seems to me that although the big stores and softcos are making money from their Amstrad sales, they have decided that they will make more from other machines. Are they trying to force CPC owners into buying consoles or another computer where the games are more expensive?

Well, not really. An industry insider told **CPC ATTACK!** that one of the biggest problems is that programmers who would normally have been happy to work on Amstrad titles are lured by the big bucks offered by console games producers. The fact is that softcos can't get the right people for the amount of cash a programmer earns from a CPC title. Other than produce sub-standard games, there ain't a lot that the softcos can do! The big stores try to stock CPC games, but sometimes lack of shelf space prevents this. Incidentally, they don't stock Spectrum games either.

The full charts, courtesy of ELSPA, are:

TOTAL:

COMMODORE C64	26.1
COMMODORE AMIGA	19.8
SPECTRUM	14.1
SEGA 8-BIT	7.4
ATARI ST	7.0
AMSTRAD CPC	7.0
SEGA MEGADRIVE	6.4
NINTENDO	3.8
SEGA GAMEGEAR	3.2
NINTENDO GAMEBOY	2.8
PC COMPATIBLE	1.3
ATARI LYNX	0.7

FULL PRICE:

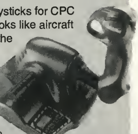
COMMODORE AMIGA	41.7
COMMODORE C64	22.1
ATARI ST	12.7
SPECTRUM	12.1
AMSTRAD CPC	7.1
PC COMPATIBLE	3.9

BUDGET:

COMMODORE 64	38.3
SPECTRUM	21.6
COMMODORE AMIGA	20.2
AMSTRAD CPC	10.2
ATARI ST	8.0
PC COMPATIBLE	0.8

WS

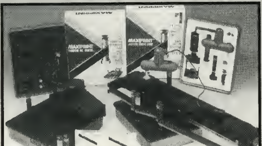
HIGH FLYING AVIATORS WILL ALSO DRIVE YOU ROUND THE BEND

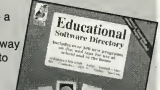
Quickshot have announced two new Joysticks for CPC high flyers. The joysticks looks like aircraft yokes, one more so than the other. They won't be suitable for lots of arcade games, but look extremely wicked, and both should be excellent for flight and racing/driving games. The Aviator is more useful for driving games and flight sims, while the Intruder is best for games such as G-Loc and Afterburner. Your local computer store, or mail order supplier, should be stocking them anytime now. Oh yes (nearly forgot), the cost is £34.95

RIBBON RE-INKER

Quill marketing have come up with a kit which claims to save 95% of printer ribbon costs. A standard fabric ribbon can be re-inked up to 50 times at a cost of 30p a go, but the drawback is that the kit costs £33.45+VAT. If you aren't a large user of ribbons you could always set up a re-inking bureau.
Contact: Quill Marketing, 0603 746970



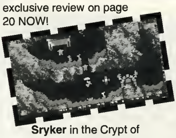
A VERY SPECIAL OFFER



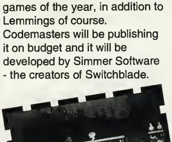
Rickitt Educational Media have made a special offer available to all **CPC ATTACK!** readers. They are giving away their Educational Software Directory to any reader who writes to them. The Directory, normally priced £1, is a 96 page full-colour guide to educational software, and products can be ordered directly from it. The guide isn't Amstrad specific, but there are plenty CPC progs, such as Funschool, and loads other good educational progs even we haven't heard of!
Contact: Rickitt Educational Media, Ilton, Ilminster, Somerset. TA19 9HS. Tel: 0460 57151. Fax: 0460 53176

GAME NEWS

LEMMINGS is out - see the exclusive review on page 20 NOW!



Sryker in the Crypt of Trogan will be one of the big games of the year, in addition to Lemmings of course. Codemasters will be publishing it on budget and it will be developed by Simmer Software - the creators of Switchblade.



The game will be the first game on tape to utilise the PLUS's enhanced grafix - Amstrad said it couldn't be done, but the Codies have done it! The game will use technology only previously available on cartridge. This opens up a new avenue for Codemasters, whose budget games couldn't quite make it into our Top 50 because of the high quality of re-released budget titles from GBH, Hit Squad and Kixx. The technology will give Codie games the edge over re-released budget titles, which may start to look a little drab. Watch out for a full review next issue.

Codemasters are also set to release Grell & Fella. Take a goblin, a fairy, a sorcerer's garden and you get the first ever Garden`em-Up. The game features sprites as large and colourful as ever seen before!
Contact: Codemasters, 0926 814132

The Lineker Collection will soon be available from US Gold. The compilation features the four footy games; Italy 1990, HOT SHOT, Footballer of the Year 2, and International Soccer Challenge. The compilation will be available on cassette and tape.
Contact: US Gold, 021-625 3388

LETTERS

Welcome to the letters pages. It's all here...all the gossip...all the views..all the comments..it's the biz

Gotta letter? Then get them in:

**LETTERS,
CPC ATTACK,
HHL Publishing,
Floor 3, Greater
London House,
Hampstead Road,
LONDON NW1 7QQ
or fax:
071-387-9518**

Help,

I am a newcomer to the CPC and would appreciate some assistance. I have a CPC 464 PLUS for my children aged 7&9, and so far the machine as been a big disappointment all round. I have had to return numerous tapes, but some shops will not accept them back, and I am left with several that don't work. The problem is that the games do work on a friends CPC 464 and the tapes aren't faulty as such. I bought a tape alignment kit which doesn't work on the PLUS machine either! Cn anyone suggest any program that will make these games work.

S.Pye,
Cheshire.

Nope, can't help you there, you've been duped. Tell us the shops that won't exchange and we'll print them, cos' they're being very mean and nasty. Many older CPC games won't work on the PLUS machines and I don't know anything that will make them do so. When you buy your games get a guarantee that if they don't work on your machine you can exchange or get your cash back. This guarantee should be made in writing by the shop manager. Alternatively, if the shop has a CPC PLUS (this is as likely as a cow flying down your street dropping nasties) get them to try it. Look out for badges which state that games are CPC PLUS compatible. Why not try to write to the producers of the games in question with the shop details - it's likely that they can put you onto someone who can reimburse you.

Hi Limeys,

I have an Amstrad CPC464 which I totally adore (I'm soon getting a CPC6128!) and believe me, I know exactly how people feel when they complain about lack of software for the CPC. I live in Australia and there's no software here in Perth at all! Hundreds of CPC's are sold each week in the newspapers, because no-one is realising the potential of the machine - look at Terminator 2 and Cisco Heat! People are now buying Segas, IBMs and Amigas by the dozens, but I reckon the CPC won't be done for a few years yet!

I am a budding programmer and have programmed a brilliant art package (my brother's friends think so) which has additions such as icons and a few fonts. I'll be selling copies of the program for #5, a blank cassette and a SAE (although not required). For this, the buyer gets a copy of the program and some text on how to use it. Updates of the program will be available at NO cost! How's that for generosity?

I am looking for a circuit diagram for the CPC464 and hope someone can help me where to find one. If I get a copy, I can add lots of extras, such as disk drives and RAM to the basic 464, which Amstrad may be interested in.

Before I go, I'd like to make a comment to the CPC6128 users who feel disgruntled at having to suffer because of the CPC464's limitations. Firstly, the 464 has been around a lot longer than the 6128 and if the 464 wasn't popular the 6128 wouldn't have been made. Secondly, the tape drive can be bought for the 6128, and lastly, angry 6128 owners should "SHUT UP!"

Adrian Chadd (aged 12), Australia

Gosh, mate. You dumb Aussies should write your address down if you're interested in receiving mail. Must be living in the outback that does it! If you want to send your program to ATTACK, we'd be happy to evaluate it, and maybe even recommend it, to readers with your contact address, but not unless we see that the thing is worth mentioning in the first place! Any reader who can help you with the circuit diagram can send the info to the ATTACK offices, but unless you contact us we won't be able to pass the info on. Amstrad have stopped making the CPC anyway and won't be interested - where have you been for the last few years? In noddy-noddy land methinks.

P.S. Stop telling people to SHUT UP, cos' you never know when they'll tell you the same!

Greetings earthlings,

I began "serious" computing last July and purchased my first magazine that very month. Truthfully, I hardly understood any of it - but I have gradually become computer literate and CPC jargon is now part of my vocabulary. My family, friends, and even my newsagent, are now satisfied that I've flipped.

P.S. I am the proud owner of an Amstrad CPC6128 called Fred (and why not?)

Isobel Swade (aged 50 plus), Cheshire.

Crikey, you sound like just the person we need for the teccy job (plug, plug), but unfortunately you live at the totally wrong end of the street for us to take you seriously. We also think you've flipped - cos' you haven't checked out the latest subscription offers!

P.S. Ain't nothing wrong with Fred, no ma'am.

Gotcha!

On the front cover of the March issue of ACU, what does the West Ham supporter think he's going to do with that 6128. He would do a lot better if he tries to plug it in first - it is not connected to the monitor.

Still, being a West Ham supporter, he has more than his fair share of worries. He must be trying to play "Bubble Dizzy" with Sunderland supporters around him.

Mr. Bob Sayers, Kent.

Don't know really. It just goes to show that you can't trust a West Ham supporter to get anything right, can you?

Erm, Excuse me,

On the topic of cover disc or tapes, I would like to applaud suggestions for alternative cover disc/tapes, because they are a positive contribution to the debate.

However, I believe that there would be many people who would still consider that they were subsidising other users. The owners of 464's could still claim that they were subsidising 6128+ users every second month, and visa-versa.

I would be interested to read the views of 664 and the older 6128 users, who get the best of both worlds, being able to load tapes and discs!

I know very little about the duplication and other costs, but, if you adopted the suggestions and alternated between cover mounted tapes and discs, would it be feasible when a cover disc was featured for non-disc users to send for a tape version, and visa-versa?

I understand this is not going to satisfy everyone, but it would help to cater for every user. If you consider this suggestion practicable, perhaps other readers would care to comment?

Mr. PL Ramsay, Manchester.

Okay, Okay! To set the record straight, CPC ATTACK won't ever have either a cover-mounted cassette or disc. Never, none, no, finito, end of story. NEXT!

Oi! Listen Up,

I would like to bring to the attention of your readers, a disk that I have set up with CP/M Plus software for the CPC6128 containing the best Public Domain word processing software around. VDE is the name of a powerful, fully featured, word processor which is the best software in the Public Domain, and certainly is better than some commercial stuff.

The only problem is that it runs under CP/M, but has superb features that you'd only expect from commercial software. I have set up a disk for VDE, including a 7000 word fully expandable spell checking dictionary, a spell checker program, plus the dictionary editor (SPELL.COM and SPELL-ED.COM) which, as their extensions suggest, run under CP/M too. The program was not written specifically for the CPC and as such modifications need to be made, but I have fixed all of the necessary ones already.

The full disk, including a .DOC file with full details of how to set up the word processing system, is being offered FREE of charge! The full instruction file (46K), written by VDE's author, is also supplied. The disk must be set up because I cannot supply programs such as SUBMIT and SETKEYS as these are copyright, but all the software on this disk is Public Domain. No guarantees can be given if the user does not have an Amstrad CPC6128 and the CPM Plus (3.1) operating system. Those requiring printed notes instead of the .DOC file will have to enclose 20p for the 3 A4 sheets of printer paper.

Paul Fairman, South Wales

C'mon, you know the rules. All services are to be found in the Classified, and not in the letter, pages. I've published you're letter as an example of the sort of mail I don't want in these righteous pages. If you are providing a free service, you can use the Classified section free of charge and you can send any disk/program to the PD column if you want coverage.

Are you sure you aren't breaking the PD code of honour in what you're doing? You may be providing a great service, but has the author of the software agreed to your modifications, or does accompanying notes say that the program can be changed? It's because of this that I haven't printed your address. If you send the disk to Public Sector we can evaluate it, but please check that it's OK to distribute the program - you could end up in lot's of trouble.



CONSOLE CRAZY

Goodbye Bros, hello Mario Bros; greetings Sonic The Hedgehog, see you Sonic Youth. As the '90s have moved into gear, rock 'n' roll has stood still while shoot'n'scroll has flourished. It seems a million teenage fingers would rather be zapping monsters and zooming into the next on-screen world than tapping into youth's traditional Number 1 software-selling entertainment.

Multi-band tours like Jane's Addiction American Lollopalooza spectacle and the Jesus and Mary Chain's Rollercoaster grungoid variety show have been among the few rock tickets to sell well. But while music has only really succeeded with rock packages, game packs have sold well everywhere. Nintendo clocked up £183m worth of UK sales in 1991, while the Japanese parent company's profits outstripped such established giants of industry as Hitachi and Nippon Steel. Already 600,000 Brit citizens can't let go of their addictively portable Nintendo Game Boys, while the Super Mario Bros 3 game has sold so many copies that, were it a film, only ET would have taken more at the box office. Maybe that'll change soon: a Super Mario Bros feature film is to be made this year, with Bob Hoskins scheduled to play the game's irrepressible plumber.

So, while more traditional forms of entertainment are stuck on pause, the world's youth haven't noticed enough to need consoling. But they have needed their consoles.

CONSOLE YOURSELF

The world of dedicated game-playing home consoles is about to undergo a revolution. Nintendo's arch rivals, Sega, are potentially launching their Mega CD drive in Britain later this year, making available a CD drive to clip onto Sega's existing Mega Drive console. And after that will come Sega's Wonder Mega: a Mega Drive and Mega CD manufactured as a single, stylishly designed unit. But for now, the games console battle is effectively a four-strong tag-team battle, with both Sega and Nintendo lining up two machines in their attempt to corner this fantastically lucrative market. The success of these brands relegates alternative systems, such as the expensive Neo Geo, to purely marginal status.

SEGA MEGA DRIVE [£129.99]

Until now, the Mega Drive has been the undisputed technological leader in the European console market, thanks to the massively superior memory capacity that went with being the only 16-bit machine in town. Now Nintendo are hitting back with their own 16-bit machine, the Super Nintendo Entertainment System. But the Mega Drive has been available since 1990 (1988 in Japan) and is now in a strong position to consolidate the 16-bit arena.

The Mega Drive's impressive memory gives it a palette of over 4,000 colours and a boom-bastic CD quality stereo sound. Thus the 16-bit capability gives the Mega Drive amazing graphic quality. Just check out the awesome multi-layered parallax scrolling as Sonic The Hedgehog rushes on his spring-loaded high tops to smack Doctor Robotnik, or the mind-bending colours and sprites lighting up Robocod.

As well as its 16-bit brilliance, until now the Mega Drive has had unrivalled looks. Buy it from the right shop and you'll get a free Turbo Joypad thrown in with the Sonic game that comes with the £129.99 price tag. Not bad going when you consider that the Super Nintendo costs £149.99 and arrives without the array of games available for the Mega Drive. From Sonic to the John Madden American Football delivering a kick up the end zone with its 3D gameplay, the Mega available games selection is, well, mega.



Mario's just back from an Ann Summers party (right)





SUPER NINTENDO ENTERTAINMENT SYSTEM [£149.99]

The Super Nintendo (Super NES) was launched overseas as the Super Famicom and has been available in Britain for some time as a technically illegal grey import. But now the Famicom has been re-named the Super Nintendo, newly launched for the British market and giving Nintendo their first slice of 16-bit UK action.

The Super Nintendo has impressive 3D graphics and CD-quality sound - expected products of the 16-bit capability which will make Nintendo's existing NES console look like a Spitfire flying in the wake of a Tornado. The system's memory makes it possible to zoom in on screen action and control up to 128 moving characters at once. Nintendo promise a "revelation" with the ergonomically designed joystick controls and the Super will come with the 96 levels of the Super Mario World game as standard.

But the Super Nintendo will cost £20 more than the Mega Drive and, initially at least, will have nothing like the Mega's array of games. It'll take at least a year for games programmers to produce the software that will utilise the Super Nintendo's full capability. Sega have been through that process with the Mega Drive, emerging with games classics such as Sonic, ready and waiting for buyers. The Super Nintendo would be facing a fierce struggle if it wasn't for Nintendo's strength in the market-place. Nintendo is massively dominant in the US market and such a commercially strong position will ensure healthy sales. Even now, one Super Nintendo (or at least a Super Famicom) is being bought in America every twelve minutes.

That's entertainment! (below)



NINTENDO ENTERTAINMENT SYSTEM [£79.99]

Until the arrival of the Super NES, the Nintendo Entertainment System (NES) was Nintendo's sole console crusader. This funky 8-bit box may move in a different universe to Sega's Mega Drive. Yet at less than £80, it's cruised on the sheer omni-prescence of the Nintendo name, and its accompanying Super Mario Bros game, to become the world's best selling games console. Super Mario Bros 3 has long been available for the NES, a combination that gave, arguably, the best value game-playing in the world - until Sonic was bundled in a £130 package with the Mega Drive.

Playability is NES's chief strength, coming as it does with two control pads as standard. Nintendo is Japanese for 'work hard', but the NES's pure playability tells you that this meaning is nothing more than a fop to Japan's all-pervasive work ethic.

SEGA MASTER SYSTEM [£59.99]

The Master System looks and plays like an impoverished relation when compared with the Mega Drive, but at £20 cheaper than the NES, it's a bargain introduction to games consoles - even more so if you nab one second-hand from the hordes who've been trading up to a Mega Drive.



Yes master (above)

The Master System has comparable graphics and sound to its 8-bit rival, the NES, but loses out slightly for playability: it only features one control pad as standard. Also, the fact that it comes with only the puny Alex Kidd game included, negates some of its price advantage when you consider that the NES comes with Super Mario. Sega are now combating this problem by supplying the Master System with the Sonic The Hedgehog game, but this has resulted in a price hike to £79.99. Yet, while this move has upgraded the Master System, in the long term Sega are planning to push the Master System down market.

"We'll have to change the design, make it more appealing to younger children", Sega Director General Kuminasa Yagi said of the Master System recently.

"We'll also drop the price and provide bundle titles aimed at five to eight year-olds." With these measures, Yagi says there are "three or four strong years left in the 8-bit.

JACK TO THE FUTURE

The arrival of the Super Nintendo means the console battle is now a 16-a-side game, but even as Nintendo draws level with Sega on the bit front, Sega is planning to up the stakes without so much as a compact discussion. Sega's Mega CD is possibly set for an Autumn UK launch with a price tag of around £299.

The Mega CD has been available for some time as a grey import, but it's been poor value for all but innovation-thirsty techno-first bods. It's been expensive, the software available has been very poor and the grey-imported machines won't work with UK software when it becomes available.

The Mega CD is basically a CD drive that fits onto the Mega Drive, opening the console up to the many advantages of software on CD. CD offers enough memory capacity to fit every Sega game onto one CD, which also means games can be bigger and have more levels and sub-plots. In addition, CD will bring a revolution to game-playing graphics and sound quality. It should eventually bring a price drop for games as a CD costs £1 to make as opposed to a cartridge's £10. This could mean that free sample CDs can be given away with Sega magazines, something that has never been feasible before.

The obvious next step from the Mega CD was to produce an integrated CD drive and games console. Sega are already on the case here. The beast in question is the Wonder Mega. It's been developed in conjunction with JVC and has been available in Japan since April at around £365.

The Wonder Mega isn't set to reach the UK until 1993, but when it does it'll feature all the ground-breaking advantages of the Mega CD (like the Mega) and also doubles as an audio CD player and a karaoke machine!

And, if the Wonder Mega isn't futuristic enough for you, Sega are already reported to be developing a new generation of games console - with an incredible 32-bit capacity.

Sega's Chief Executive Officer, Tom Kalinske, has said, "The machine is being worked on at the moment and is in quite an

advanced state of development." The Giga Drive will work with CDs and Mega Drive cartridges, but at this stage, it's impossible to say when it'll reach the UK or how much it'll cost.

HAND-HELD HEAVEN

If Sega are leading the way with games consoles, Nintendo has maintained a least a market-place lead in hand-held games machine stakes. Their Game Boy is as addictive as it is successful in the shops. In fact, such is the unit's play power that it supposedly produces the Repetitive Strain Injury, Nintendo Thumb. Right now 17 year-old Nicola La Brazzy of Michigan is suing Nintendo for £6,000. She says that using her Game Boy for two hours every night has led to a feeling of numbness and tingling in her arms. However, not everyone's claiming that it can be a health hazard: it's been reported that one American doctor prescribed a Game Boy when a young boy repeatedly picked open a scab on his lips. With his hands permanently glued to his machine, the boy's scab healed up.

NINTENDO GAME BOY [£69.99]

This best seller proves small is beautiful. The black and yellow 2.5 inch screen isn't back-lit, so Game Boy needs reasonable light for playing, but it is completely portable, being easily small enough to fit in a coat pocket. Aside from its portability, its key strengths are the number and playing endurance of the games available, the remarkable battery life of up to 17 hours, and the fact it comes with the Tetris game as standard. Link two Game Boys with a lead, (you can play head to head with a chum).



"I wanna hold your" bleep! (below)



Give that man a segar

SEGA GAME GEAR [£99.99]

The Game Gear hit the streets in 1991, but despite its full colour screen, it hasn't really threatened the Game Boy's dominance. The back-lit 3.2 inch colour screen and higher quality graphics are spectacular compared to the Game Boy's dull yellowish screen, but the Game Gear has substantial drawbacks. It's not as pocketable as the Game Boy, but more crucially, it has a much more limited battery life of only 3 hours, due to the power drain from the colour screen. Until recently, it's only suffered from a lack of really playable games. However, the recent arrival of a Game Gear version of Sonic The Hedgehog should go a long way to putting this right - even if the Gear/Sonic package costs a whopping £119.99.

Until the advent of this package, the Game Gear didn't come with a game included.

EXTRA DIMENSIONS

Such is the range of optional add-on extras for hand-helds and consoles, you could easily spend more on peripherals than you did on your games machine. The following is a selective look at the realm of games-related gizmos.

SEGA MEGA DRIVE

Joypads and Joysticks - A range of custom pads and sticks are available for the Mega Drive. The best are Sega's own **Arcade Power Stick** (£34.99), **A Dan Ltd's Explorer** (£29.99) and **Jong Rich's Quick Gun Turbo** (£16.95). The Arcade is a durable item, while the Turbo and Explorer are well-designed, responsive sticks. However, far more amazing is Sega's blast-tastic infra-red joypad. You'll get two Mega Drive versions for £34.99 and thereafter be able to indulge in long-range, cable-less blasting.

Action Replay Cartridge (Datel Electronics £49.99) - Plugs into the Mega Drive to give you extra game-playing lives and energy. It also allows you to alter a game to give yourself a secret and, frankly, unfair advantage.

COMPUTER MUSIC

The pop/home computer crossover has come a long way since ex-Buzzcocks frontman Pete Shelley included a primitive ZX Spectrum program on his 1983 'XL1' LP. Pop and rock have always fed off any surrounding youth culture, so it's no surprise to see console culture filtering into music and vice-versa.

Turntable Hype's 'The Mario Brothers' turned the worlds most famous moustachioed Italian plumber into a dance-floor star with its wholesale sampling of the Mario Bros game soundtrack. It's not that surprising to see tech'd-up House musos sampling console games, but traditionally formatted rock bands have also been getting in on the act. Lloyd Cole's band have adopted the theme from Tetris as a jam session anthem, while the Pixies recorded the theme from ancient home computer game Narc for a B-side.

Donkey Kong was the arcade game that gave the world its first glimpse of Mario. Appropriately then, this seminal game has found its way into pop.

Japan's Yellow Magic Orchestra recorded a version of the Kong theme, while Julian Cope sings about the "idiot son of Donkey Kong" on the track 'Safe Surfer' on his 1991 album 'Peggy Suicide'. Apparently Jusbo's wife was so engrossed in his Mario-playing Game Boy at the time that she'd visit the recording studio and spend all day there without uttering a word.

Elsewhere, the shoot-'em-up game Xenon 2 had a remix of Bomb the Bass's 'Megablast', while Betty Boo's 'Doing the Do' appeared in an instrumental version on Magic Pockets. Coldcut have been writing music specifically for games - including the ecologically sound Top Banana.

Console games have also become part of the club culture in another way, with games being projected onto walls as dance music pours out of the speakers.

Such wall-filling games visuals might be too much for the average semi, but not for the appropriately gargantuan hippopotamus of lurve, Barry White. In his LA mansion Bazza has had a custom-built projection theatre installed in which to play his Sega games on a massive screen.

Aside from the dance music, whizzkids who've picked up on games, some more long-serving musos have hit the trail. Ex-Ultravox frontman John Foxx teams

Powerbase Converter (Sega £29.99) - Great looking add-on that lets you play Master System games cartridges on a Mega Drive.

Action Chair (Sega £109.99) - Basically a chair taking the place of a joystick. Lean to the left and move to the left etc., fire buttons on the arms. Kooky concept, but it is really nothing more than expensive black vinyl elephant.

Oh, no not the comfy choir



Mega Stand (KMA Ltd £59.99) - An integrated games-and-console stand. A luxury, but it looks just great with that Mega Drive perched on top.

SEGA MASTER SYSTEM

Joypads and Joysticks - Top joy for your MS, comes with The Bug (Cheetah £14.99) and the mega-tough Quickshot Digital Deluxe (Quickshot (£9.99).

Rapid Fire Unit (Sega £9.99) - Cranks up your fire rate to match the gab-rate of a speed-fuelled racing commentator in full flight.

3D Goggles (Sega £49.99) - Expensive for a novelty that gives results no more convincing than a low-budget horror flick.

SEGA GAME GEAR

AC Adaptor (Sega £9.99) - Not included with the Game Gear, but battery life makes the adaptor a must.

Battery Pack (£29.99) - This rechargable pack works in conjunction with the AC adaptor to give you a full day's worth of game-playing juice. You can use normal rechargable batteries, but there may be some danger from power surges.

TV Tuner (Sega £74.99) - Plugs into your Game Gear to turn it into a portable colour TV. No licence needed either, pal.

Wide Gear (Sega £14.99) - Magnifies the Game Gear screen to remove eye strain and gives bonus gaming fun.



For couch potatoes everywhere (left)

NINTENDO NES

Joypads and Joysticks - Top joyful sticking and padding comes NES way with the NES Advantage (Nintendo £37.99) and the NES Turbo (Nintendo £38.49). The NES Double Play (£48.49) pack features two remote joypads, giving the same effect at the Sega infra-red pads.

NES Four Score (£28.49) - Adaptor allowing four players to groove on their NES with the same game, a feature unique to Nintendo.

GAME BOY

Magnifier (£8.99) - Enlarges Game Boy screen, as with Sega's Game Gear magnifier.

Amplifier (£13.99) - Stereo boost for enhanced blast-tastic sound effects.

Gamelight (£9.99) - The illumination you need to overcome Game Boy's lack of back-lit screen.

GAMES GALLERY

Obviously there are a multitude of games available for the games machine of your choice. They range from the amazing to the abysmal. Here's the cream of the crop.

SEGA MEGA DRIVE

Sonic The Hedgehog (£34.99) - Spike-topped , high top-shod, Sonic is the most street-cred games geezer going. He hit the screen after Nintendo's Super Mario Bros, yet this character has such charisma it seems like he's been here all along. Great graphics for this fast, fast feast of gameplay.

John Madden American Football (£39.99) - Touchdown thrills come flooding in with this game's 3D graphics. The Super Bowl champion of American Football games. John Madden 2 is now available, bringing a few innovations including incredible real-time commentary.

Castle Of Illusions (£39.99) - Mickey Mouse stars alongside beautiful graphics in this fab platform game.

Toejam And Earl (£39.99) - Raptastic action as our hip hop heroes zap the aliens and knock out the odd beatbox singalong.

EA Hockey (£39.99) - Super fast ice-bound action. Even features a punch-up sequence for that real ice hockey flavour.

MASTER SYSTEM

Sonic The Hedgehog (£29.99) - The hog's now rocking on the Master System. Even on an 8-bit the graphics are still incredible.



Hedgehog sandwich onyone? (above)

Super Kick Off (£34.99) - Super soccer action on the MS. Overhead pitch perspective and authentic gameplay. You'll never scroll alone.

R-Type (£29.99) - Master System master blaster. Ace those aliens!

Populous (£34.99) - Play God as you unleash a multitude of natural disasters on your enemy in this strategy spectacular.

GAME GEAR

Sonic The Hedgehog (£29.99) - The Game Gear Sonic gives the Sega hand-held the chance to rival Game Boy overnight.

Super Kick Off (£27.99) - Fab footie fun.

"It's a funny old game" (below)



Pac-Man (£19.99) - Addictive version of arcade classic. On import.

NINTENDO SUPER NINTENDO

Super Mario World (included with Super Nintendo console) - As the Super Nintendo console hits the UK it comes with only 6 games - F-Zero, Super Soccer, Super Tennis, Super R-Type, Sim City and Super Mario World. Of these, Super Mario is the most crucial - it's the game that's supplied with the Super Nintendo. The Super Nintendo's processor unit may only have half the speed of the Mega Drive, but Super Mario World is still a piece of platform perfection.

There are 96 levels, great parallax scrolling, fantastic sound and the playability's great. It has to be really, as Super Mario World is forced into head-to-head competition with Sonic. Mario World is undoubtedly a fine game - and a long one. Accordingly, the cartridge has a battery back-up which means you can turn off at the level you've fought you way to and

then start again there later.

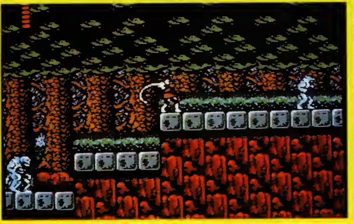
NES

Super Mario Bros 3 (£39.99) - Old Mario's come a long way since making his on-screen debut in Donkey Kong. This is simply a classic platform game featuring the most identifiable games image of the '90's. Watch out for the film.
Boulder Dash (£39.99) - Unremarkable graphics, but great gameplay as you take Rockford through the diamond mines.
California Games (£32.99) - Multi-sport action as you try to become a prize-winning pad pent-athelete. Or something...

GAME BOY

Tetris (included in the Game Boy pack) - Terminally addictive geometric game action as you guide the descending shambles into some semblance of order. Lego goes Star Wars.
Super Mario Lane (£19.99) - Pulsating, pocket-size platform perfection from the plucky plumber. Poptastic.
Castlevania 2 (£24.99) - Combat Count Drac in the platform stake-out.





Super Mario (above right)
Castlevania II (right)

up with Bomb The Bass's Tim Simonon to create a soundtrack for Speedball 2, while a member of creaking MOR rockers, Supertramp, has been writing music for Nintendo. Unsurprisingly, former Yellow Magic Orchestra man, Ryuichi Sakamoto, has been doing the same.

On a more dubious front, hardcore dance bods, Altern 8, claim to be working on a game called Balloon Attack. Don't believe a word - these Stafford Soundblasters are famous for their inspired untruths.

While only a select number of pop people have actually become involved in the game-making process, every musician under the sun has declared his or her allegiances to Sega and Nintendo. Welsh rock 'n' roll archivists Manic Street Preachers have managed to turn their Sega obsession into an extension of their cutely nihilistic world view.

"When we were making our album, I was spending eight hours a day playing Sonic The Hedgehog," says guitarist/lyricist Richey. "It took me a couple of weeks to get to the end and kill Doctor Robotnik and now I can't live with myself unless I get my time down. This stupid little thing called Sonic The Hedgehog rules my life and I find that very sad.

"People might say I should spend time learning to play my guitar. But a guitar's just a piece of wood and metal. Sonic seems much more real to me."

The band of the moment, Nirvana, are Nintendo addicts, but they have a more ancient design in mind for future stage shows. "You know that tennis game with paddles from the '70's - Pong," says frontman Kurk Cobain. "We're going to have that projected behind us when we play in America. That's our idea of a stage show."

But, while Nirvana look to the games world's kitschy past, the future of the games/pop crossover will come with the imminent arrival of CD games software.

Already Tim Simonon has been remixing 'Megablast' for CDTV and Sega are promising custom-made music from established bands for their Mega CD software.

"Sega are holding back on the Mega CD until they have one item of really revolutionary software," says a Sega spokesperson. "It'll include music from well known musicians and it'll just blow everything else away in one fell swoop."

GREY MATTERS

The Super Nintendo console was given its official UK release this Easter. Yet this console, or at least its alter-ego the Super Famicom, has been available in Britain for months. These Famicoms weren't bought to Britain by Nintendo, but by so-called grey importers - businessmen and women who trade in the grey legal area surrounding the import of soft - and hardware.

It's estimated that 20 per cent of the Sega Mega Drive games sold in Britain are the result of such grey imports: over £10 million worth of software in the past year.

Grey imports are a problematic area for the games companies. On the one hand the fact that punters are prepared to snap up grey import machines at habitually steep prices testifies to their products' desirability. But, on the other hand, grey imports undoubtedly deprive the games companies of substantial profits.

Grey imports come about when games cartridges and consoles are bought perfectly legally in one country and then imported to another country through dubious grey areas of trade law. The profit potential is here because games are much cheaper in Japan than the UK, while consoles unavailable in this country can obviously command healthy prices when imported. For example, grey import Famicoms were selling for £200 in December, as opposed to the £150 you'll pay for a British Super Nintendo.

Sega have now decided to put their foot down and call a halt to grey imports of Sega products. They undoubtedly have the legal strength to do this and as the Super Nintendo/Mega Drive battle hots up, Sega have to take action if they are to effectively control the software available in Britain.

This element is so crucial to Sega's strategy because grey importers don't always bring in state-of-the-art software. Frequently in the past, they've bought up cheapo bulk loads of games that've turkied in Japan and attempted to unload these on British games buyers.

Problems can also arise for people who've splashed out on grey import consoles. Not only are punters paying prices inflated by a limited supply of products that'll eventually become available in Britain anyway, but sometimes the grey import systems aren't ideally suited to the British market. For example, grey imported Mega CDs won't work with the software that's to become available in Britain.

Of course, one way to eradicate grey imports is to give all software and hardware a worldwide simultaneous release. The major games companies are moving toward this strategy and hope to wipe out the grey importers by combining this tactic with immediate legal pressure. Sega are well aware that just one test case trial has to come out in their favour and Britain's grey importers will be sent running. Already many such companies are considering going legit.

Sega say that they will strive alongside outside programming companies to fill any gaps in game variety left by the demise of grey imports.

BrunWord

Guaranteed!

Peter Brunning writes:-

During a recent conversation in our village pub the question was put to me "You must have loads of expensive computer equipment?" I puzzled for a moment then replied "No! I write programmes that run on a low cost computer".

At Brunning Software we do have several other types of computers but 95% of our computing is done using the CPC6128 and 6128 plus machines. That's why we really can guarantee there is no better word processor or database system for these computers. Look at this advertisement. Typed into BrunWord (ROM), spelling checked, printed out at A3 size, and photographically reduced to A4 by a local firm. Every dot of ink in this advertisement, including the teddy and the picture, came directly from the programme via a 24 pin wide carriage printer.

Our orders are processed using Info-Script and programmes are written using BrunWord, all on 6128 machines, and before you Ho Ho, let me add that BrunWord 6128 is at the heart of all our programmes. The ROM has many more facilities and a great deal of convenience but all the editing, general text processing, and spelling checking are just the same in BrunWord 6128 (just £30!).

Case Histories

'Mr G of Nottingham' was mentioned in our Oct 89 ACU advert. I recall reading his first letter in June 89 and wondering if it was a setup. He was using the full Protext system on ROM and asked several searching question about Info-Script. He purchased Info-Script in July 89 and wrote back *"big improvement on my Protext and Pro-filer.... vastly superior speed"*. In Oct 90 he upgraded to BrunWord Elite and wrote *"Brilliant! Brunning have done it again.... unrecognisable DMP2000, I never realised it was capable of producing such clear accurate print"*. In Oct 91 he upgraded to BrunWord ROM and responded with a 30 minute telephone call full of praise for the ROM's new facilities.

'Mr L of Australia' was also mentioned in our Oct 89 ACU advert. He purchased BrunWord in July 88. When he took advantage of our update offer in June 89 (Yes! we do send update offers to Australia), he wrote *"I found it a very easy word processor to use, and the more I use it the more I like it"*. In Oct 90 he updated to BrunWord Elite. In Nov 91 he updated to BrunWord ROM and in his letter he wrote *"Excellent word processor, easy to use, without prolonged reading of the manual. Keep up the good work"*.

References

ACU	SEP	1990	Page 58/59	- Encryption.
ACU	OCT	1990	Page 56/57	- Headline.
ACU	DEC	1990	Page 24/25	- Info-Script.
AA	FEB	1991	Page 18	- BrunWord 6128
ACU	MAY	1991	Page 42/43	- BrunWord Elite.
ACU	JUN	1991	Page 60/61	- Elite Font Editor.
ACU	AUG	1991	Page 20/21	- BrunWord ROM Module.
ACU	DEC	1991	Page 44/45	- ROM Module Secrets.

(AA = Amstrad Action, ACU = Amstrad Computer User)

ROM Module £125

The BrunWord ROM is a black resin coated module which plugs directly onto the expansion socket of the CPC6128 or the 6128 Plus. Forget about ROMs and ROM boards, simply plug it on, type |BW and the entire BrunWord Elite system is instantly ready for use. 256K bytes of memory already loaded with programmes and data.

On the ROM we have BrunWord Elite for 9 pin and 24 pin printers, 10 'type setting' fonts for 9 pin printers, 8 'type setting' fonts for 24 pin printers, BrunSpell, 30,000 word dictionary and Info-Script (powerful relational database). KDS ROMDOS for 2nd 3.5 inch disc drives can be added for £15 extra (not 6128 plus), and remember that no ROM box is needed.

Quote

"It's totally brilliant..... carries on the extreme user friendliness of Brunning products to a very high standard.... I have one of these little gems plugged into the back of my CPC right now. As you can imagine, anything that passes through the ACU office can expect to come in for a hard time and, I can safely say that to date, the BrunWord ROM has performed in an exemplary fashion on all fronts".
Chris Knight (ACU Editor) - ACU August 1991.

BrunWord 6128 £30

Complete word processing package (disc) with word processor, spelling checker and card filing programme. BrunWord 6128 out performs all other word processors for the CPC6128. It's high speed screen routine, gives it a very fast response and the editor features are logically arranged to be easy to learn. The spelling checker, with its dictionary, load into memory at the same time as the word processor, making access very convenient and exceptionally fast. It is supplied with a 40 page manual and a tutor file.

Info-Script £50

Complete data processing package (disc), including all the features of BrunWord 6128 and BrunSpell. The word processor and database can be resident together giving the speed and convenience of access with no disc delays.

9 Pin Elite £55

The Elite system for 9 pin printers (on disc) consists of BrunWord Elite, BrunSpell, Headline, 8 bit printer status port and 7 'type setting' fonts (fonts are 24 pin in size but for 9 pin printers).

9 Pin Elite+Info £92

The Elite system (on disc) as above but including Info-Script and a backup disc.

24 Pin Elite+Info £90

BrunWord Elite (on disc), BrunSpell, Info-Script, back up disc, 8 bit status port and 7 'type setting' fonts for downloading to a 24 pin printer.



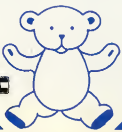
'William Taylor'

This delightful line drawing by Chris Rothero is one of the illustrations in 'Strawberry Fair', a book of traditional songs and easy piano music, published by A & C Black Ltd. It was Dart Scanned into four 'screens' by agreement.

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BrunWord Elite Rom Module with Info-Script. . £125.00

All supplied on 3in disc (except ROM module)
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All prices are inclusive for UK. Overseas orders sent insured air mail - Europe add £2.50 : Rest add £7.50



Know what the best CPC games are? Course you don't - not until you read our Top 50... The greatest, the best, the most enjoyable, they're all here... it'll frazzle you out. It's completely bogus.

BOGUS AWARD
Only for the best that are rated 95% - 100%

EXCELLENT AWARD
given to games scoring 90% - 94%

FOCUS Attack! GAME

L



Amy sez:
Scucide is painless, unless your a lemming! Mash the cute little buggers thats what I say!





Ralph sez:
Yummy! Lemmings are my favourites. I like chewing them up and spitting out their little green scalps. Save a Lemming for me!

NUMBER 1 GAME

QUESTION: How many levels are in the CPC version of Lemmings?

Dad sez:
No, they'll never ever take off. They're much, much too small, and they don't appear to do anything intelligent. No, a very bad example of how a child should be educated. How anyone hopes to make a decent living making things like this is beyond belief.

MMINGS

PSYGNOSIS - £15.99(c), £19.99(d)

It's eventually arrived, after a year of waiting and hoping. It looks good, but probably the most astounding development is that Psygnosis have decided to launch the game on their own label. Previously, they have licenced their 8-bit games out to other softcos, such as Ocean and Gremlin. This first CPC launch by Psygnosis is most notable as a statement of confidence in the game's quality.

For those not conversant with the little darlings, Lemmings, as their name implies, are a little clumsy and suicidal. Once they decide to jump from their trapdoor in the sky, all they seem to do is walk around bumping into obstacles, dropping off cliffs, and walking straight into deadly traps. They look so cuddly, innocent, and vulnerable, that, if you've got one ounce of charity, you'll want to save their race by directing a required quota to the exit doors in each level.

At the top of the screen you'll see a display of the Lemmings, at the bottom, you'll have access to certain powers which you can impose on individual Lemmings by pointing and clicking. Once given a task, the little dears will get on with the job, until they're stopped by an obstruction or finish their task. Tasks can be dished out in limited and varying quantity and are; Floater, Digger, Miner, Blocker, Climber, and Builder. Individual Lemmings can be deliberately sacrificed to save the fate of other Lemmings.

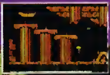
Those who have heard of Lemmings (most folk, I would have thought) have probably seen it played on other machines, and will understand some of the limitations that the CPC version has. The most notable is that the game was designed with the primary use of a mouse as the main controller. The CPC version can only be controlled from a joystick or keyboard. Some of the puzzles seen on 16-bit versions can't be implemented because of the difficulties of controlling the pointer without a mouse. The designers have implemented this well and have painstakingly left out some of the more intensive movements, but have added some extra obstacles.

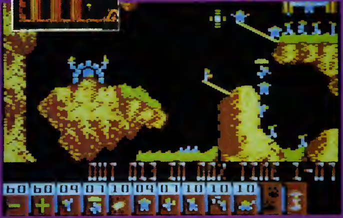
That's not to say that the game isn't frantic. The controls, and more importantly what can be achieved with them, have been carefully fine-tuned. That's one limitation well implemented.

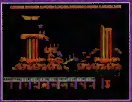
The game shows only a little deviance from 16-bit versions in its game area; the screens scroll, but some of the game's 80 levels are a little smaller. It's a credit to the programmers and developers that the game fits into a standard 64k machine. The gameplay has been graded from really easy to really hard, and most players will find a suitably tame grade to start with.

It's a well used cliche - especially in our Top 5 - but the grafix are top-notch. The Lemmings are bitty - they always were - but they're definitely Lemmings - no doubt about it. The clever use of colour makes the grafix almost as good as those seen in 16-bit versions. Sonix too has moved on from the early days when a beep and a bip were all that was to be had.

Well, should you buy the game? Yes, of course you should. It's the most expensive game ever to be released for the CPC, but would you prefer for it not to be launched at all? Who knows, if this sells really well there could be more bogus games to follow, including Lemmings 2.

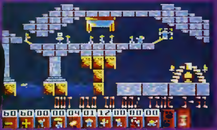














GRAFIX 10 | SONIX 9 | GAMEPLAY 10 | DIFFICULTY 5 | 98%

PRINCE OF PERSIA

GRAFIX 10 | SONIX 9 | GAMEPLAY 10 | DIFFI... 8



BOGUS ATTACK! GAME

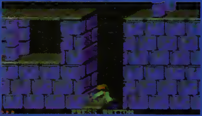
DOMARK - £10.99(c), £15.31(d)

It's the best arcade adventure around, and it shows what the CPC is capable of when programmed properly. Prince of Persia is crucial!

The aim of the game is to save your girl, the princess (yuck!), from the hands of an evil tyrant thus stopping him becoming Prince of Persia. The Sultan is fighting a foreign war elsewhere and marrying the Princess is the tyrant's only hope of taking the crown, not to mention the whole of Persia. If you can't save her, he'll either marry her, or kill her. In any case, certain injustice.

You're already in the heavily guarded, and booby-trapped dungeons of the palace. You have to free yourself, reach the palace, and get to the tower to save the day, but, wait for it...you've only got an hour to do it and there's 12 levels, each of increasing difficulty.

Prince of Persia's gameplay is cleverly designed and quite authentic. It'll have you believing that you're an Arabian Knight - honest! Games last for 60 minutes, no matter how many times you're killed, which happens after either a fatal blow or several minor ones. Health potions prolong life and are placed throughout the Palace and its dungeons, and are critical to your rescue attempt. The annoying feature about being killed is that you're put



back to the beginning of the current level. Levels aren't too long, so this becomes less of a problem as the gameplay is mastered. Only when the time runs out, is the game ended.

As in any adventure, exploration is central to success, but in Prince of Persia it's best to tread warily! The floors aren't always solid and some parts collapse under your feet. Sometimes you'll want them to, but other times you'll curse your rotten luck. As you progress, you'll find the guards getting harder to pass and the tyrant's magic becoming more and more intense.

Amy sez:
Brill grafix and smart animations! The programmers are welcome at my pyjama party any time!



NUMBER 2 GAME



Mum Sez:
Destructive games like these shouldn't be allowed. They serve no purpose - go finish your homework.

DIFFICULTY 8 97%

What makes Prince of Persia stand out, far above any other game of its ilk, is its unrivalled animation of its main character. The game designer spent a lot of effort copying the movements of real people and incorporating them into the main graphics. They're so good that they'd have you believing you were playing the game on a higher spec machine, such as an Amiga or Sega Megadrive. Sound effects add to the game's authenticity - the clanging of the swords, the dropping of the concrete floors, and the gulping of the life potions are but a few of the well timed, and well implemented FX.

If you like any sort of game, you'll like Prince of Persia. That is unless you can't play it! The game is quite hard initially, and it'll take a lot of patience, practice, and skill to get past the early levels. However, if you are prepared to spend time on it, it'll be one of the best games you've played.

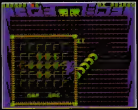
NUMBER 3 GAME

TOP 50 GAMES

SMASH TV

OCEAN - £10.99(c), £15.99(d)

It's colourful, explosive and frantic. Smash TV is the coolest CPC coin-op conversion around and puts the 16-bit version to shame. That's why it's so highly rated on the CPC!



Years into the future, Network TV Contestant Shows rule the airwaves and Smash TV is the place to be seen! The public compete against everything and anything the show's sadistic creators can throw at them. Unlike convicts playing for freedom as on other TV shows, those on Smash TV are greedy volunteers tempted by cash, holidays and big money prizes. The stakes are the same though, only losers win an appointment with death. And they deserve it!

There's four game zones to annihilate in this non-stop, 360 degree action arcade conversion. Zones are individual levels consisting of several studios, with different thugs and meat-heads to combat in each. Pick up and use power-ups, speed-ups, spinning shurikans, mace balls, grenade and rocket launchers, multiple shooters, and last, but certainly not least, smart bombs, which'll help you out of many a cluttered ambush. These weapons appear on-screen as the game progresses along with special bonuses, such as cash, gold, holidays and electronic goods. They only appear for a short time, and should really be collected. This adds to the distraction, `cos the last thing you probably want when fighting off squillions of mutants is a colour TV or Hi-Fi stereo system - all the latest gadgets included, of course.



Studios are small arenas which are screen size, so there are no hidden off-screen baddies and because the game area doesn't have to scroll, the sprites are super fast. Even when the screen is cluttered, there seems to be no slow down. This is OK for some, but will annoy those who like easier going when things get tough - well, hard luck matey!

Conquer one arena to be allowed to enter the next, but sometimes there are two or more doors. So, you've gotta make a map to sort out where you're going.

Get through all the studios in a level and you can meet Mr.Big Badguy of The Year: Yep, you got it, the mandatory end-of-level guardian, or should that be guardians? The first one is tough, the second set tougher still, the third almost impossible, and the last is gonna kill ya! Very few players will win this game without some help.

Sadly, the 8-bit version of Smash TV is only a one player game, as opposed to the two player option available on the 16-bitters, but it's much, much better than the 16-bit version. It's faster, meaner and more responsive, although there's no help from a second player. One things for sure though, if you can't stand the early pace, then you won't be able to go the distance. However, it's games like these that improve your awareness and reflexes. Persistence usually pays off in the end.



GRAFIX 9 SONIX 8 GAMEPLAY 10 DIFFICULTY 8 96%





4 RICK DANGEROUS

KIXX - £3.99(c)

Oops! Bang! Wallop! It's Rick D in this superb Indiana Jones spin off. Rick begins his quest, to save something or other from certain doom, with a huge bolder in chase. The opening scene sums up the game - it's a battle of wits to the very end! There's loads and loads of puzzles to solve, and Rick's supply of bullets and dynamite will have to be replenished quite frequently. During each level, there are sub-stations to which Rick is transported after losing a life, so he won't have to restart from the beginning each time. Unless - there's always an unless when Rick D's around - you lose all your lives. By far the best game of its time, on the Kixx label it's a steal!



95% Grafix: 10 ■ Sound: 7 ■ Gameplay: 10 ■ Difficulty: 6



5 RAINBOW ISLANDS

HIT SQUAD - £3.99(c)



This is the best of the cute and cuddly games. Shoot rainbows, which exterminate baddies on contact, and form platforms to assist your climb to the top of each land. The quest is to save the numerous islands from the evil, but nonetheless, cute and cuddly creatures inhabiting them. Each island offers different themes with backdrops and baddies, but throughout the game the same excellent gameplay is maintained. Superb for any type of game freak!

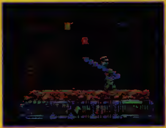
95% Grafix: 9 ■ Sonix: 9 ■ Gameplay: 10 ■ Difficulty: 5

6 TURRICAN II

KIXX - £3.99(c)



This successful platform shoot'em-up has just recently been released on the Kixx label, and what a bargain it is too! Turrican II's appeal comes from



the size and variety of the game - there are five mammoth worlds, 12 levels in all! It's one of the best blasters, `cos of its numerous weapon effects. One criticism is that the screens don't scroll until the main character is near the edge, causing some unexpected aliens to be too close for comfort. Frantic action that only arcade addicts will love. Parents stay well clear!

94% Grafix: 8 ■ Sonix: 8 ■ Gameplay: 10 ■ Difficulty: 7

7 SWITCH-BLADE

GBH - £3.99(c)



The graphics are the poorest in any of the top games, but the gameplay is excellent. It was a great game at its launch, perhaps a tad overshadowed by Rick D, and it's still a superb discovery arcade challenge today! It's a bit tricky though: Ralph was playing it for weeks before realising that some bricks could be kicked out to reveal hidden passages. He still can't understand that the special bricks have different textures, so he's kicking and punching every wall - silly mutant.

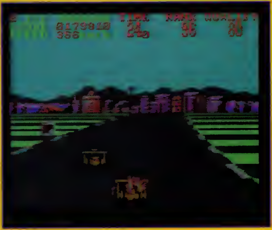
94% Grafix: 6 ■ Sonix: 7 ■ Gameplay: 10 ■ Difficulty: 6

8 CONTINENTAL CIRCUS

TRONIX - £3.99(c)

This is a tough little driving game that's as addictive as Bassett's Liquorice Allsorts. There's eight tracks, one per race, and you've got to qualify in each to advance to the next. Failing to qualify in any race means starting from scratch - that's race 1. The track's are a little too narrow which results in harder races, `cos you take unexpected bumps unless you're in complete control...who said it was gonna' be easy?

94% Grafix: 8 ■ Sonix: 9 ■ Gameplay: 9 ■ Difficulty: 7





9 NORTH & SOUTH

INFOGRAMES - £9.99(c), £14.99(d)

Based on a Belgian TV cartoon strip, this arcade/strategy game of the American Civil War is an absolute corker. There's plenty of action as the Yanks take on the Feds and is best played in two player mode, the highlight being the frantic arcade battle. Add to this the great sonix and cartoon graphics, and this is one game that'll keep the CPC earning its living.

93% Grafix: 8 ■ Sonix: 9 ■ Gameplay: 9 ■ Difficulty: 3



10 HUDSON HAWK

OCEAN - £10.99(c), £15.99(d)

Bruce Willis couldn't make an impact in this dire movie which crashed at the box office, but Ocean certainly saved the day, yet again, with an excellent conversion. The screen is two-tone blue, so the graphics aren't astounding, but work in well with the game levels which offer plenty of puzzles and arcade action. Cat burglars beware!

93% Grafix: 8 ■ Sonix: 8 ■ Gameplay: 9 ■ Difficulty: 5

11 TURRICAN

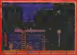
KIXX - £3.99(c)

When first released, Turrican was greeted with rave reviews because it was so fresh and colourful. The new types of weaponry, the new types of baddies, and a robot who could leap high into the air couldn't be taken lightly. Years on, as with any great game, it still has plenty of oomph! Great blaster that's just a bit easier on the joystick than its sequel.

93% Grafix: 8 ■ Sonix: 8 ■ Gameplay: 9 ■ Difficulty: 6

12 TITUS THE FOX

PALACE - £10.99(c), £15.99(d)



Billed by some unscrupulous gents as the computer owners' answer to Sega's Sonix The Hedgehog, Titus The Fox doesn't quite live up to the hype surrounding it. Not on the CPC anyway. It's reasonably fast and appealing, but when the screen scrolls upwards the game slows down to an appalling rate. However, barring this annoying fault, this is a good platform game with some of the most amazing grafix that you'd never thought possible on the CPC - much better than the 16-bit versions in its gameplay.

93% Grafix: 10 ■ Sonix: 9 ■ Gameplay: 8 ■ Difficulty: 6

13 KICK OFF 2

ANCO - £10.99(c), £16.99(d)

There ain't no way to keep a good game down, although the 8-bit versions weren't the best. To describe it as an essential purchase (even if you don't like football) is a bit overstated, but if you do like football in any manner, then its more like crucial than essential! Don't be another soccer mug - get it now!





93% Grafix: 8 ■ Sonix: 7 ■ Gameplay: 9 ■ Difficulty: 5



14 WWF WRESTLE-MANIA

OCEAN - £10.99(c), £15.99(d)

When you get a big licensed game that's aimed for a particular audience, the game reviewers love to put it down. That's what happened to this game, but the public voted for it with their spending power and made it one of the most successful games in yonks. It's a great wrestling game, with good grafix... What do magazine reviewers want? Blood. Now there's an interesting idea!

92% Grafix: 9 ■ Sonix: 7 ■ Gameplay: 9 ■ Difficulty: 4

15 G-LOC

US GOLD - £10.99(c), £15.99(d)

More of a shooty, blaster, Top Gun sort of flight game than a flight sim, one might say. And one might just be right for a change. The programming and graphics are excellent - no other flight blaster comes this close to destructiveness. Lovely jubbly!



92% Grafix: 8 ■ Sonix: 9 ■ Gameplay: 9 ■ Difficulty: 5

16 F-16 COMBAT PILOT

ACTION 16 PREMIER - £6.99(c), £10.99(d)



The premier flight sim for the CPC, offering six missions. The missions test pilots to the limit, each requiring different approaches and tactical weapon loading. Weapons are chosen by the pilot or groundcrew, whichever you prefer. The flight sim people, DI, are notorious for their detail and reality factors, and I won't argue with that. Neither should you!

92% Grafix: 8 ■ Sonix: 8 ■ Gameplay: 9 ■ Difficulty: 7

17 RBI BASEBALL 2

DOMARK - £10.99(c), £17.99(d)

There's been a few baseball games released for the CPC with this standing head and shoulders above the rest. Whether you know about baseball or not, RBI is extremely easy to get into. It's this simplicity and the addictive action that makes RBI 2 essential for armchair sports fans.

92% Grafix: 8 ■ Sonix: 8 ■ Gameplay: 9 ■ Difficulty: 5





18 IMPOSSAMOLE

GBH - £3.99(c)

The mole in the hole is back, and it's on budget! There's no skimping in this mole's hole though, but there's plenty of messing about to be done. There are five levels, four of which can be played in any order. The fifth can only be played when the other four levels are completed. If you're a mole without a whole lot to do, check this out!

92% Grafix: 8 ■ Sonix: 8 Gameplay: 9 ■ Difficulty: 6



19 IK +

HIT SQUAD - £3.99(c)

Oh boy, this is an oldie, and a golden one at that! The aim of the game is to beat the living daylights out of your opponents. There are also a few in-between-level game breakers which test your reflexes. Superb, cheap, and will probably still be around, in some guise, for years to come.

92% Grafix: 9 ■ Sonix: 7 Gameplay: 9 ■ Difficulty: 5

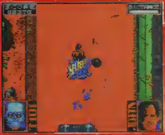


20 SPACE CRUSADE

GREMLIN - £10.99(c), £15.99(d)

I must admit that I've seen the board game in shops, but have rarely been tempted. It's now out on the CPC and seems a fairly good game. The graphics aren't that good, but when did that stop a game being good? It's played like a board game, where turns are taken in a bid to control the game area. Strategic stuff!

91% Grafix: 7 ■ Sonix: 6 Gameplay: 10 ■ Difficulty: 6



21 TERMINATOR 2

OCEAN - £10.99(c), £15.99(d)

There's five levels to this conversion of Arnie's big screen hit, each representing an important scenario in the movie. The variety of gameplay between the levels covers most aspects of arcade games, so you've gotta be good at a bit of everything to succeed. There gameplay is a lot better than that on the 16-bit versions - Amiga owners eat your heart out!

91% Grafix: 9 ■ Sonix: 7 Gameplay: 9 ■ Difficulty: 7

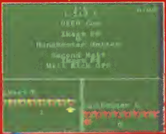
22 PLOTTING

OCEAN - £24.99(cart)

A superb little puzzler, where blocks are thrown towards a matching block in the game grid. Care must be taken not to end up with a block which can't be matched. It may sound a bit dull, but it's addictive as cherry pie!

91% Grafix: 8 Sonix: 8 Gameplay: 9 ■ Difficulty: 4





23 MANCHESTER UNITED EUROPE

KRISALIS - £10.99(c), £15.99(d)

Man United are having their best season ever, and it's all because of a Scotsman. Can you emulate the cup glory and fill Old Trafford's bare trophy room with some more up-to-date trophies? If not, you may still have just as much fun trying. The management sections are somewhat tedious, but once you're on that park son, there's only one result wot counts!

91%

Grafix: 8 ■ Sonix: 7
Gameplay: 9
Difficulty: 7

24 OP THUNDERBOLT

HIT SQUAD - £3.99(c)

"Aka, aka, aka." When I get my slimegun out, all the kids in the neighbourhood know better than to stay outdoors. So, the only real practice to be got is with this constant barrage of lead pumpers. It could be a bit tough for some wimps - believe me I know a few - but you can take loads of lead before bellying out.

91% Grafix: 8 ■ Sonix: 7 Gameplay: 9 ■ Difficulty: 7







25 POWER-DRIFT
HIT SQUAD - £3.99(c)

My favourite's the mohican, what's yours? In any case, there's plenty of different drivers to suit your taste - however strange they may be. This racing game is raced in go-karts round a small circuit. The only rule is to finish within the top 3 to earn points in the league table.

90% Grafix: 8 ■ Sonix: 7 Gameplay: 9 ■ Difficulty: 5



26 CHASE HQ
HIT SQUAD - £3.99(c)

Smash'em off the road, but ya'll havta carch'em fast. And boy, do I mean fast! Speed is the name of the game when in pursuit of a robbery getaway vehicle. The roads get narrow, are packed with Parent drivers, and are blocked with roadworks, but the chase is on and only the fastest survive in the job. D'ya think yar up t'it, kid?

90% Grafix: 8 ■ Sonix: 7 Gameplay: 9 ■ Difficulty: 5



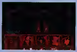
27 PRO TENNIS TOUR
HIT SQUAD - £3.99(c)

This one's as recent as they come, `cos it's gone out on budget this very month. It's the best game of tennis I've had on any machine - it's not too hard, and it's not too easy, to become champion, although a few types of serve aren't returned by opponents - making it a bit predictable.

90% Grafix: 7 ■ Sonix: 7 Gameplay: 9■ Difficulty: 4

28 HEROES OF THE LANCE
KIXX - £3.99

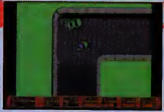
This is a must for all the AD&D fans out there! It's not my sort of game, but Arnold loves it and Ralph has eaten four copies already - and it's only Monday! Seriously though, you'll get all your usual magic and sorcery here.



90% Grafix: 6 ■ Sonix: 6 Gameplay: 9■ Difficulty: 7

29 SUPERCARS
GREMLIN - £9.99(c), £14.99(d)

Viewed from above, you've got to race your car around small tracks for cash. The money you win can be used to buy accessories or even a new car. As you progress, you start racing with meaner dudes, so your car has to be upgraded quite regularly. Supercars is the best super-sprint variant on the CPC. There are two versions: one for 64k, and the other for 128k machines, the latter offering upgraded grafix. Excellent.



89% Grafix: 7 ■ Sonix: 6 Gameplay: 9 ■ Difficulty: 5



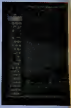
30 STUNT CAR RACER
KIXX - £3.99

This is as good as they get, but you'll have to excuse the second rate display in return for superb, fast vector grafix. You have to learn when to ease off the gas, or you'll find your mobile carting off the raised ramps and you won't win a single point. Great challenging fun!

89% Grafix: 7 ■ Sonix: 6 Gameplay: 9 ■ Difficulty: 5

31 CASTLE MASTER
HIT SQUAD - £3.99

This is a newy to budget too. Written using the Freescape three-dee adventure system, Castle Master is set in a, erm, castle. Your twin is trapped in the uppermost vault in one of the castle's towers. Can you save the day, when monsters and ghouls are around to thwart your efforts?



89% Grafix: 7 ■ Sonix: 6 Gameplay: 9 ■ Difficulty: 5



32 ROBOCOP 2
OCEAN - £24.99(cart only)

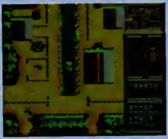
It may be a cart game and unavailable to most, but if you've got a PLUS or console system, then grab a hold of this game of the



blockbuster movie. The graphics are superb, and the gameplay follows the plot of the movie - a tried and tested formula. The only down side is that the joypad must be used - there are no joystick controls!



89% Grafix: 9 ■ Sonix: 9 Gameplay: 8 Difficulty: 7



33 LICENCE TO KILL

HIT SQUAD - £3.99(c)

James Bond movies always seem ripe for conversion, this being one of the best. There's plenty of variety and great gameplay. As expected of a film-conversion, each of the levels take a theme from the film, the first of which has you following the bad Sanchez's jeep in a 007 helicopter. There's bullets to dodge and gunpoints to blast, before jumping off to take on the drug baron's henchmen in a shoot-out. Once the levels have been completed, the levels repeat, but this time they're much harder than before. A nice touch!

88% Grafix: 8 ■ Sonix: 8 Gameplay: 9 ■ Difficulty: 5

34 BATMAN - THE MOVIE

HIT SQUAD - £3.99(c)

"Wait till they get a load of me". This game isn't about The Joker, which isn't too much of a pity 'cos playing the hero is always more fun than playing the villain who always loses in the movies. There's great platform action, followed by a road-dash, a Batcopter sequence and another platform romp to eventually see The Joker off once and for all. The platform sequences are helped along by clever use of the Bat-rope. Clever stuff!



88% Grafix: 8 ■ Sonix: 8 Gameplay: 9 ■ Difficulty: 5



35 NAVY MOVES

HIT SQUAD - £3.99(c)

Getting past the explosive bhoys in the first level can only be done with a great deal of skill and timing. After that, the game plays through arcade sequences which replicate other Ocean productions, but the life of a top sailor is fun, by gum!

88% Grafix: 8 ■ Sonix: 7 Gameplay: 9 ■ Difficulty: 7



36 LOTUS ESPRIT TURBO CHALLENGE

GBH - £3.99(c)

Lotus is different because it's probably the only decent two player racer available. The graphics and sound aren't the best around, but if it's a challenge you're after, then you've got one. Sixteen cars start each race, with the first eight past the finish qualifying for the next track. There's also a drivers' championship table and points are awarded to the top 10 drivers in every race. Once you fail to qualify for the next race, the game is over and you've got to start again. Terrific fun.

88% Grafix: 6 Sonix: 6 Gameplay: 9 ■ Difficulty: 5

37 HERO QUEST

GREMLIN - £9.99(c), £14.99(t)

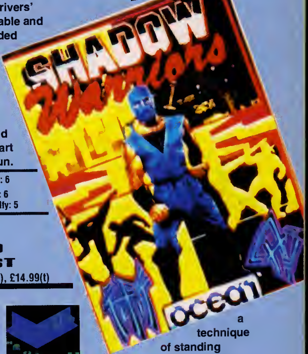
This has recently been re-launched at the same price with its sequel, Return Of The Witchlord, making for a double dose of board game action. There was no sound on the tape version, but this is a super set of isometric 3D adventure game which is best played with a group of friends.

88% Grafix: 7 ■ Sonix: 5 Gameplay: 9 ■ Difficulty: 7

38 SHADOW WARRIORS

HIT SQUAD - £3.99(c)

A good solid beat'em-up with no frills, just some good kickin'n'punchin'. It's good to have two players working in unison, but since this version is only for one player, there is



a technique of standing behind obstructions to stop attacks from the rear. End of level baddies are particularly mean, and there's some good techniques to destroy enemies.

88% Grafix: 8 ■ Sonix: 7 Gameplay: 8 ■ Difficulty: 6

39 SIM CITY

INFOGRAMES - £9.99(c), £14.99(d)

It's pretty amazing that they ever got Sim City to fit on the CPC. The gameplay remains as good as ever, but sadly the standard of the graphics lets the game down slightly. However, this is an excellent strategy game where you build your own city from scratch. Set tax rates, build commercial, residential and industrial zones for people to build on and live happily ever after.

87% Grafix: 6 ■ Sonix: 0 Gameplay: 9 ■ Difficulty: 5







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41 NEW ZEALAND STORY
HIT SQUAD - £3.99(c)

The grafix let this down, as the whole aim was to offer a cute graphical platform game. However, it still rates very highly due to the good gameplay. The aim is to rescue your fellow Kiwis, in the lands of New Zealand. Secret gateways take you into further locations and discovering them is, by far, the best way to get well into the game fast!

87% Grafix: 8 Sonix: 8 Gameplay: 8 Difficulty: 4



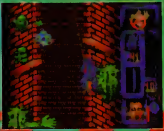
42 DRAGON NINJA
HIT SQUAD - £3.99(c)

Martial arts games came, and they went, but Dragon Ninja was one of those which still holds strong against the plethora of its genre. Villains come in thick and fast and, although not too mean, they are pretty fast on the attack. Definitely a game of quick reflexes.

87% Grafix: 8 Sonix: 7 Gameplay: 8 Difficulty: 5

43 GHOSTBUSTERS II
HIT SQUAD - £3.99(c)

The sprites are large and colourful and that's the key to the whole game, 'cos it's still



really playable, unlike many games which use large sprites for its main characters. If you're a fan of the vid' then you could get into the game quite easily. Otherwise, you may find it a bit too ordinary.

86% Grafix: 8 Sonix: 7 Gameplay: 8 Difficulty: 6



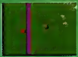
44 OUTRUN EUROPA
US GOLD - £11.99(c), £16.99(d)

There are seven levels in this racing game, each one offering different scenery and vehicles. On the water sections, weapons are used to blast enemies and slow coaches into oblivion, but you'll have to collect ammo during the road dashes first. The grafix are quite good and the controls tend on the sensitive side. Not a bad game by any means.

86% Grafix: 8 Sonix: 7 Gameplay: 8 Difficulty: 5

45 GAUNTLET II
KIXX - £4.99

This is part of the Gauntlet Multimixx 4 compilation, which comprises Gauntlet, Gauntlet II and Data. This is based on the popular 4-player arcade



machine, but sadly only supports one player. Guantlet was, and still is, an excellent CPC conversion.

86% Grafix: 8 Sonix: 7 Gameplay: 8 Difficulty: 5

46 BARBARIAN 2
OCEAN - £24.99(cart)

Blood, guts, and all the things that heroes are made of, Barbarian 2 never quite lived up to its promise of being a Crucial game. One of the first



games to feature decapitation, blood and gore.

86% Grafix: 7 Sonix: 7 Gameplay: 8 Difficulty: 6

47 MIDNIGHT RESISTANCE
HIT SQUAD - £3.99

There's lots of shooting to be done, with weapons being purchased at the shop, using the tokens collected from dead villains. The main character is a sort of Rambo, and you'll have to be sharp



with the joystick to get past the grinding wheels on the third level.

86% Grafix: 7 Sonix: 6 Gameplay: 8 Difficulty: 6

48 EMLYN HUGHES INTERNATIONAL SOCCER
AUDIOGENIC - £10.99(c), £16.99(d)

Emlyn Hughes signed up one of the best sports games of the 80's when giving his name to this footer. With a bit of management thrown in, this multi-player game is great for a group session. Pick your team and play in the league or cup

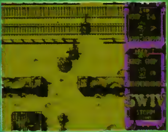


against the seven other international teams. The computer teams aren't impossible to beat.

86% Grafix: 7 Sonix: 6 Gameplay: 8 Difficulty: 5

49 SWIV
STORM - £8.99(c), £15.99(d)

It's not the fastest game about, but there's always plenty happening, with gunships, turrets, and battle-stations in abundance. At first



glance, I was disappointed with SWIV, but I soon came round after a few games. True, it's slower and less challenging than the 16-bit version, but it gets harder into the latter levels and is still the best vertical scrolling shoot'em-up on the CPC.

86% Grafix: 6 Sonix: 7 Gameplay: 8 Difficulty: 5



50 WORLD CLASS RUGBY
AUDIOGENIC - £10.99(c), £16.99(d)

The grafix aren't spectacular, but the gameplay is the best representation of rugby the CPC has seen. The game is based - surprise, surprise - on the rugby World Cup and there are similarities in the management strategy to Audiogenic's Emlyn Hughes International Soccer. The rugby matches will satisfy the most avid rugby fan. One not to be missed if you like the sport.

86% Grafix: 6 Sonix: 6 Gameplay: 8 Difficulty: 7





Top 50 Games Chart

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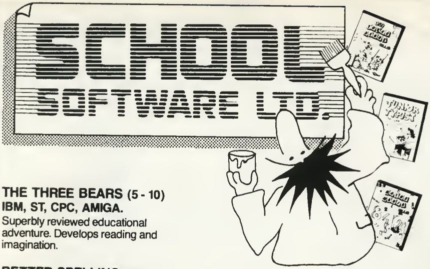
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POKES MAPS & TIPS

It's never been this good before....

It's all here, and if it isn't to your liking, it soon will be, dude. Most of this section will be supported by you. That means I'll help where poss, but if you don't write with help, then how do you expect others to do it for you? I'm on the prowl for maps, multiface pokes, and tips.
I also want the CORRESPONDENCE pages to be supported. If you don't support it, then nobody else will.

GOT IT? GOOD!

THIS MONTH, Lee Rouane wins a prize! Contact me with a wish list Lee, and I'll see what's about. Try to keep the price of the goodies to around twenty five quid, though.

LITTLE PUFF THE DRAGON TIPS

from Mr Marshall

For infinite lives, simultaneously press D-R-A-G-O-N while the loading screen is displayed.

CORRESPONDENCE

ATTACK REQUESTS

Each month, we get loads of mail from readers requiring help on games. Well, we just can't do it, but you can. Every month we'll print the REQUESTs for help with a special code, and if anyone out there can help then write in with your RESPONSE. Please quote the reference number of the REQUEST you're RESPONDing to. Got it? Good 'cos here are the first lot of requests all from the same person.

GARFIELD [JN1]

I can't go anywhere without getting hungry and eating the key to get to the pound. How do I do it?

BARBARIAN [JN2]

I can't even get past the first man. I need to know how to get past them. Can anyone help?

RENEGADE [JN3]

I can't get past level 2. Is there a cheat, or can anyone suggest any playing tips?

DOUBLE DRAGON 2 [JN4]

Can anyone suggest a cheat for infinite lives, or a level jumper? I can't get to the end of level 5, the last level.

SORCERY [JN5]

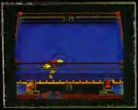
I keep running out of power on level 2, it's well 'ard. Can anyone give some advice?

SEND ALL REQUESTS TO:
CPC REQUESTS
& RESPONSES TO:
CPC RESPONSES
at:
CPC ATTACK, HHL Publishing,
Floor 3, Greater London House,
Hampstead Road, LONDON NW1 7QQ
or fax: 071-387 9518

WWF WRESTLEMANIA TIPS

from David Chapman

Take your wrestler out of the ring so that your opponent follows. Keep your opponent out of the ring, until he is counted out, by repetitively hitting him while your wrestler jumps in and out of the ring. Remember to jump into and out of the ring, when the opponent goes down, to prevent yourself from being counted out. This tip works for all wrestlers.



HERO QUEST TIPS

from Lee Rouane

Kill all of your characters on the first level of the game. When you get back to the menu screen, click the CHARACTER SELECT option and rename all the dead characters to your own choice. Then select PLAY GAME and your characters will be alive again, but with body points of 0. However, if you purposely lead your characters, one-by-one, into a booby trap or trapdoor you will get infinite body points. You should be able to complete the Quest without difficulty.

MULTIFACE POKES

from Lee Rouane

CLASSIC AXIENS (T)	388D	A7	Infinite Lives
CLASSIC MUNCHER (T)	09E9	C9	Infinite Lives
IMPOSSAMOLE (T)	261C	00	Infinite Energy
BATMAN (T)	1C90	00	Infinite Lives
SHOCKWAY RIDER (T)	9181	0x	x number of Lives
LICENCE TO KILL (T)	81AB	0x	x number of Lives
LIVE AND LET DIE (D)	7402	01	Infinite Fuel
	5B67	00	Invulnerability
OVERLANDER (D)	1815	00	Infinite Lives
SMASH TV (D)	1D5C	00	Infinite Lives



THE DUNG

NEWS

Some of you have written asking for further details on who and what exactly is The Guild. Tony Collins, its founder, is first and foremost an adventure writer with many titles under his belt such as, The Hermitage, Teacher Trouble, Nythyel and Theseus. Noticing the success Wow Software and Recreation Re-created were having in re-releasing old CPC adventures, he decided to do the same with his own games and sell them under the trading title of The Guild. Just before he broke the news to the CPC adventure starved public, Recreation Re-created (run by Mark Eltringham) disappeared off the face this earth. Tony has managed to rescue most of the titles previously sold by Mark and has now made them available from The Guild. He has also added a large number of new games from different authors to his catalogue and equally importantly, he has done some conversions of games not previously available on the CPC.

Jack Lockerby is an author well respected in adventure circles, but sadly he has only ever written for the Spectrum. Well CPC'ers can now find out for themselves what they've been missing courtesy of The Guild. Three of Jack's games have been converted so far are; Into the Mystic, Davy Jones Locker & The Miser, and I hope we can look forward to many more. There are far too many titles (both tape and disc) in Tony's catalogue to list here (43 and still growing almost daily) so for all the latest news I suggest you drop a line to The Guild, 760 Tyburn Road, Erdington, Birmingham B24 9NX. Please mention **CPC ATTACK!** when you write and watch this space for some reviews.

Hi dudes, welcome the adventure scene. We'll be transmitting news of the latest releases, helping with queries and generally discussing anything else that comes into The Dungeon.

HINTS & TIPS

Our hints & tips this month come from Margaret Walker of Preston and will help anybody stuck in that infuriating little adventure, GOLD or GLORY. It is not exactly difficult but every move is critical to avoid running out of time before you have finished. Thanks Margaret.

Solution To Gold Or Glory (Day One.)

Start In Your Room, West, Down, West, Speak To Tessa, East, South, Speak To Tim, Examine Translator, Ask Translator What Grivbotna Means, North, North, Examine Food, Examine Milk, Get Napkin, Get Sample of Food, East, East, East, East, North, Give Sample To Doctor, South, West, West, West, South, Buy Drink, Follow Coach, West, Follow Coach, South, West, West, West, South, South, Exam Javelin, Get Javelin, Throw It, Look, North, North, North, West, West, Ask Consul About Chap, Bring Chap To Consul, Inventory, Examine Match, East, Up, East, (back to your room). From your room, West, Down, East, East, East, North, Ask For Results Of Food, South, West, West, West, West, Get Glass, Smell Milk, East, South, Give Match To Translator, North, East, East, East, North, Give Milk To Doctor, South, West, West, South, South, South, Watch Girls, North, North, East, East, North, North, Ask For Analysis Of Milk, South, South, West, North, Go Library, Ask For Herb Books, Look, Get Manual, Read Manual, Go Out, West, West, Up, East - back to your room.

The last day, in your room, Look, Get Gun, West, Chase Attacker, Throw Gun - When you next see attacker, Examine Attacker, Speak To Attacker, Look, Examine Corpse, North, West, South, South, Watch Girls, North, North, East, East,South, West, Go Building, Examine Idol, Put Fingers In Idols Mouth, Down, Hide, (Make 10 moves), Look, Speak To Man, Answer the RIDDLE (A River), Get Leaves, Exam Them, Look, Search, Examine Poster, Smash Wall, North, East, North, Tell Police About Drugs, South, West, South, South, South, Give Antidote To Girls, Watch Girls.

Well I hope that I've covered your particular problem in the above selection but if not, this is what you need to do. Just write in and tell me the title of the game and where you are stuck. Then as if by magic, the answer will appear in these pages.

"MY LAMP WON'T WORK" DEPARTMENT

Will Johnson of Rochdale would like to know how to get started in HELVERA - MISTRESS OF THE PARK? Well Will, what you have to do is Lie Down on the bed, Press Film on the video camera, Hide under the bed, Press Play on the video remote control and when the guard comes into the cell - you can escape out of the open door. Up the stairs to the kitchen, take the torch and now you have the whole house, gardens and cellars to explore to find the necessary clues. Easy when know how isn't it?

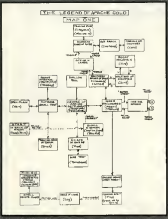
HELP WANTED

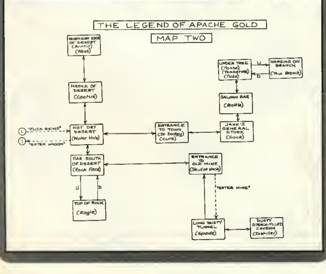
We are making the help section larger so that you can write in with any problems that you have. I can print any maps that you request and will generally try to make your adventuring easier and more fun. Why just sit there tearing your hair out in frustration when help could be just a letter away? Also, please write in with any help, news, chat, and tips so that other readers can be helped.

Please send all correspondence, hints, maps, complaints, etc to:-**The Dungeon, CPC ATTACK, Floor 3, Greater London House, Hampstead Road, London. NW1 7QQ.**



MAPS: LEGEND OF APACHE GOLD





DUNGEON HELPLINE

The following good person who is an experienced adventure player, has kindly offered to help any readers who are having difficulty with a particular problem. Please do not ask for full solutions and treat the "Scrollers" with due respect. Either telephone ONLY during the times shown or include a stamped S.A.E if you write to them: The Grue. Tel: 0695 573141 (7.30PM to 9PM Mon to Fri) 64 County Road, Ormskirk, West Lancs. L39 1QH. Despite his strange name, the Grue offers help on every Infocom adventure:-Ballyhoo, Cutthroats, Deadline, Enchanter, Hitchhikers Guide, Hollywood Hi-Jinx, Infidel, Leather Goddesses, Lurking Horror, Moonmist, Planetfall, Seastalker, Sorcerer, Spellbreaker, Starcross, Stationfall, Suspect, Suspended, Wishbringer, Witness, Zorks 1,2 & 3.

Peter Clark of Ipswich has written to ask my help in trying to track down the addresses of the few remaining software houses that still have stocks of adventures. This was not such an easy task as it first appeared, due to the number of take-overs and business failures that are going on at the moment. It will probably mean that my list will be out of date before it is printed but never mind, have a try with some of these past supporters of the CPC adventure scene.

Level 9 PO BOX. 39. Weston-Super-Mare, Avon. BS24 9UR.

Incentive Zephyr One, Calleva Park, Aldermaston, Berkshire. RG7 4QW.

Magnetic Scrolls 1, Chapel Court, London. SE1 1HH.

Topologica PO Box 39, Stilton, Peterborough. PE7 3RL.

Virgin Games 2/4 Vernon Yard, Portobello Road, London. W11 2DX.

And not forgetting of course, our "home grown" friends;

Fantasy & Science Fiction Adventures 40 Harvey Gardens, Charlton, London SE7 8AJ.

WoW Software 78 Radipole Lane, Weymouth, Dorset DT4 9RS.

The Guild 760 Tyburn Road, Erdington, Birmingham B36 8DG.

Trevor Bright from the London Docklands has written requesting a complete list of all the Infocom adventures ever released on the CPC. I usually refer to Infocom's as the standard to which all other adventures should aspire to. It saddens me that these games are no longer being written. Never mind, selected titles are still available so if you want to make sure that you have the complete collection, here they all are in chronological order:-

1980 Zork 1981 Zork II 1982 Zork III, Starcross, Deadline 1983 Enchanter, Suspended, Planetfall, Witness 1984 Sorcerer, Seastalker, Cutthroats, Hitchhikers Guide 1985 Wishbringer, Spellbreaker 1986 Ballyhoo, Moonmist, Leather Goddesses, Hollywood Hijinx 1987 Stationfall, Lurking Horror

There were some other Infocom adventures that as far as I know, were never officially released on the CPC but have since appeared on the second hand market, such as Infidel. Be warned and carefully check any games before you buy them.



EPSON LQ-570

The trouble with printers is they can drive you dotty, literally! For years, the only affordable machines for home computers were noisy, technically limited and had low output quality - they were the 9-pin dot matrix dinosaurs. When 24-pin machines arrived with their real letter quality they soon became the norm. They weren't perfect by any means, they had an inability to handle any kind of expanded output and the jagged curve of letters such as 'S' and 'O' always found them out. It didn't matter too much then because dot-matrix ruled, but since the emergence of ink jet and bubble jet printers, the 24-bit print output looks rather dotty.

Epson are attempting to launch this new 24-bit printer against the inkjet quality printer. The LQ-570 incorporates the new ESCAPE P2 printer language which the company hope will become an industry standard. It features nine built-in fonts, of which two are 'scalable'. Paper loading is granted almost any which way you want - top, bottom, or front, with push/pull tractor feed as standard. The front panel control also includes a tiny compartment for the Epson mandatory dip switches.

HEY, GOOD LOOKIN'

The machine looks great it's a bit large - almost the size of a cow, devouring lots of deskspace. Build is also impressive and put together well. Somehow it give the impression of being indestructible, just like Arnie baby in T2!

Documentation is comprehensive, but the guy who wrote it obviously believes the world consists of computer literates and thus explanations are few and far between. For example, all ESCAPE commands are listed, including the new P2 series, but it assumes familiarity with all decimal codes! Parameters are not defined and no examples are given. Of course, being a technical genius helps, but what about poor Joe Norm?

SCALABLE FONTS

Epson's description of 'scalable fonts' is contradicted by rivals, who call the new system 'bit-mapped'. It's a moot point because the two fonts which incorporate this facility, Roman and Sans Serif) can be scaled from 8-point to 32-point in size. Pitch can also be varied, using 10,12 or 15 pitch and proportional. In reality, you are unlikely to use anything but proportional 'display' typefaces.

Output quality of the scalable fonts is stunning and rivals that of a modern ink-jet. They are easy to use when you know how. For example; using Protext to produce a 20 point ROMAN headline in proportional pitch, the following would be entered in the left margin of your document, '>0C 27 107 0' to select the typeface, and '>0C 27 88 1 40 0' on the next line the determine the size and pitch. The last three numbers are the parameters - '1' selects proportional; '40' instructs a 20 point character size (always double the actual size required); '0' never varies, but must always be defined. There is no noticeable difference in print speed when printing scalable font

CAN'T JUSTIFY IT

As good as the LQ-570 is, it presents real problems for the CPC user. Fat was trimmed from the normal ESCAPE language, by removing a number of little-used commands, to make room for all the new P2 commands.

Unfortunately, one of those erased was ESC a, which controls JUSTIFICATION. The assumption being that all software has its own system for justifying text. Not true as far as the popular CPC (WP) software is concerned, because Protext, which does use its own system, will only fully justify mono-spaced text. It doesn't right justify either and only centres normal width text. Consequently, full justification of scalable fonts in proportional pitch is not possible with the Protext/Promerge Plus combination and neither is centre justify, unless you do it manually.

Brunword Elite fares no better. It makes use of the printer's justification system and as the LQ-570 doesn't have one, a great deal of the program's versatility is lost. Perversely, Brunword's Headline routines justify perfectly, but the LQ's fonts can't be used in this environment. Along with many others, I like 'ragged right' documents, but require full justification when doing column layouts.

OPINION

The LQ-570 prints very quickly, although this is offset by its nature - it's a noisy beast. The paper handling is peculiar, but it's superb when you get used to it. So there it is, lots of pros and very few cons. If you're not bothered by lack of justification control, I can't imagine a better 24-pin printer.

EPSON LQ-570 £399 RRP
EPSON - 0442 61144

Documentation	●●●○○
Functions	●●●●○
Output Quality	●●●●○
Ease Of Use	●●●●○
Speed	●●●●○

RATING 82%

BUYERS GUIDE

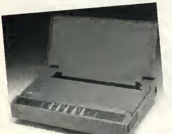
PRINTERS FOR YOUR CPC



The CPC may be an old computer by modern standards, but it can still hack it when pushed. Print output attained with the CPC is as good as that produced on any other machine, albeit a little more difficult to attain.

IMPACT or DOT MATRIX

For cost, efficiency and versatility the impact printer have the edge over the bubblejet. Although the output is of lower quality, some machines, such as the Epson LQ new range with its scalable fonts, go a long way towards reducing the gap. Models to consider are the LQ-100 and the LQ-570. Other suitable, top quality, 24-pin machines are the Citizen Swift 24e, the Star LC24-200, and the



Brother M-1324

BUBBLEJET

For a while the CPC couldn't access the superb output of the bubble jet because of lack of compatibility, but eventually Canon bowed to demand and produced the BJ10ex, with Epson LQ emulation. Now, there are also versions of this printer by Star, Brother and Olivetti. Of these, the most suitable are the Canon and Star models. Bubblejet printers are small and quiet. They work by heating ink to produce vaporised bubbles which are ejected onto the paper. The biggest advantages are quality, consistency and quietness.



Disadvantages are cost, with an ink cartridge twice the cost of a conventional ribbon and lasts half as long. Budget bubblejets don't use tractor feed, can't print multi-part stationary and have limited font choice.

DOT MATRIX - NARROW CARRIAGE

NAME & MODEL	PRICE	PINS	WIDE	FONT	CPI(DR)	CPI(LQ)	FEED	RESOLUTION	BUFFER	PARK	BOTTOM FEED	COLOUR	TELEPHONE
Amstrad LQ 3500di	£299	24	80	2	160	54	Pull	360	7k	No	No	No	0277 230222
Amstrad DMP 3160	£199	9	80	2	160	40	Pull	240	16k	No	No	No	0277 230222
Amstrad DMP 3250di	£169	9	80	2	160	40	Pull	240	16k	No	No	No	0277 230222
Brother M-1324	£319	24	80	8	270	90	Both	360	8k	Yes	Yes	No	061-330 6531
Citizen 120D+	£152	9	80	2	144	40	Push	240	4k	No	Opt	No	0895 272621
Citizen 124D	£199	24	80	2	144	48	Push	360	8k	No	Opt	No	0895 272621
Citizen Swift 24e	£369	24	80	6	216	72	Both	360	8k	No	Opt	No	0895 272621
Citizen Swift 9	£239	9	80	3	192	48	Both	240	8k	Yes	Opt	No	0895 272621
Epson LX-850	£229	9	80	3	200	30	Fric	240	4k	No	No	No	0442 61144
Epson LQ-100	£245	24	80	5	210	70	Tray	360	11k	Opt	Opt	No	0442 61144
Epson LQ-570	£339	24	80	9	210	70	Both	360	8k	Yes	Yes	No	0442 61144
Mannesman MT81	£159	9	80	3	155	26	Push	240	8k	No	No	No	0734 788711
NEC Pinwriter P20	£299	24	80	9	216	108	Both	360	8k	No	No	No	081-993 8111
Panasonic KX-P1081	£205	9	80	1	144	28	Pull	240	1k	No	No	No	0344 853496
Panasonic KX-P1123	£265	24	80	4	192	63	Both	360	10k	Yes	Yes	No	0344 853496
Star LC-20	£199	9	80	8	180	45	Push	240	4k	Yes	Rear	No	0494 471111
Star LC-200	£259	9	80	10	200	67	Both	240	16k	Yes	Yes	Opt	0494 471111
Star LC24-10	£259	24	80	8	180	60	Push	360	7k	Yes	Opt	No	0494 471111
Star LC24-200	£319	24	80	10	222	67	Both	360	7k	Yes	Yes	No	0494 471111
Star LC24-200C	£369	24	80	10	222	67	Both	360	30k	Yes	Yes	Yes	0494 471111

DOT MATRIX - WIDE CARRIAGE

NAME & MODEL	PRICE	PINS	WIDE	FONT	CPI(DR)	CPI(LQ)	FEED	RESOLUTION	BUFFER	PARK	BOTTOM FEED	COLOUR	TELEPHONE
Citizen Swift 9x	£329	9	136	3	213	40	Both	240	8k	Yes	Opt	No	0895 272621
Citizen Swift 24x	£489	24	136	4	160	53	Both	360	8k	Yes	Opt	No	0895 272621
Epson FX-1050	£539	9	136	3	300	54	Push	240	8k	Yes	Opt	No	0442 61144
Epson LQ-1010	£479	24	136	3	180	60	Push	360	8k	Yes	Opt	No	0442 61144
Fujitsu DL1200	£549	24	136	6	180	60	Pull	360	8k	Yes	Opt	No	081-573 4444
Panasonic KX-P1695	£525	9	138	6	330	66	Both	240	16k	Yes	Yes	No	0344 853496
Star LC24-20	£399	24	136	8	200	67	Push	360	11k	Yes	Opt	No	0494 471111

INK JET

NAME & MODEL	PRICE	PINS	WIDE	FONT	CPI(DR)	CPI(LQ)	FEED	RESOLUTION	BUFFER	PARK	BOTTOM FEED	COLOUR	TELEPHONE
Brother HJ-100	£345	Ink	80	1	---	83	Fric.	360	37k	No	No	No	061-330 6531
Canon BJ10ex	£345	Ink	80	2	142	83	Fric	360	37k	No	No	No	081-773 3173
HP Deskjet 500	£499	Ink	80	4	240	80	Tray	300	16k	No	No	No	0344 369369
Olivetti JP350	£499	Ink	80	3	360	120	Push	300	8k	No	No	No	0908 690790
Star SJ-48	£345	Ink	80	2	100	100	Fric	360	28k	No	No	No	0494 471111

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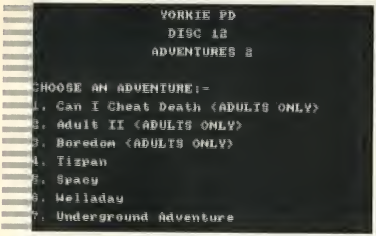
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This advert was designed and printed using a CPC 6128, MicroDesign Plus, and a 9 pin printer



Here it is - the only monthly round up of the P.D news and reviews worth reading. Others may copy it, but this will always be the original.

PUBLIC SECTOR

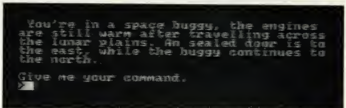
NEWS

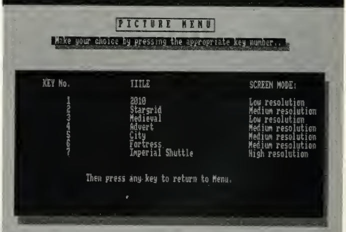
Some PD libraries are distributing programs with digitized sound tracks of commercial recordings on them. Programs such as "Madonna sings Vogue" (which is of course a matter of personal opinion) and such like. I've heard that a P.D library that specialises in this type of disc for the Atari ST community, has recently been raided by a combination of the police, F.A.S.T and various legal representatives and that all of their stock of digitized pop songs, etc have been confiscated. The discs are now being examined to ascertain whether any laws have been broken. So my advice to anybody out there who has this type of program in their library, is to not sell/distribute any more of them until this matter has been resolved, one way or the other.

YORKIE PD are proud to announce that they are now open for business. David York is the man in charge and he has obviously been taking note of how to get my attention because he has kindly sent me a catalogue and a demo disc. There are currently 14 selections in Yorkie's catalogue with one selection taking up one side of a blank disc. David tells me that he has some more selections coming up but what he would like to do is to put on the type of programs that YOU want. To this end, he not only would like some ideas but also for you to supply any of your own programs that you feel deserve a wider audience, in return for some free P.D.

Yorkie's catalogue is in the form of a newsletter, rather than just a stock list, and is quite enjoyable to read. At only 50 pence per selection plus a disc and return SAE, Yorkie PD is well worth checking out. David has also asked me to thank the following P.D people for helping to get his library started, so take a bow Tony Kingsmill, Debby Howard, Edmund Spicer and David Nagle.

Tony Kingsmill of DATA PD has sadly written to tell me that he is closing his library at the end of June. Any orders received after that date will be returned. Tony has asked me to thank all his customers for supporting his library in the past, so to all of you - thanks.







REVIEWS



UTILITIES THREE - PENGUIN SOFTWARE [£1 + DISC + SAE]

This disc contains approximately 54 utilities and programs for getting the most out of your CPC at a remarkably low price:

ANTI-MULTIFACE: Upon loading you are informed that this program will allow you to run games that have been copied on a different machine using a commercial add-on called a Multiface. Now as anyone who owns one of these gizmo's will know, anything copied by a Multiface will only run if the Multiface is plugged in as well. However, this program is designed to overcome this restriction and claims to allow you to run copied programs without the Multiface being present and appears to work by saving a new loader. Hmm... does anybody want to explain the legal implications of this little exercise to me? Definitely a case of handle with care.

01CHANGE: Anybody still confused by the telephone codes in London changing from 01 to 071 and 081 will love this little utility. You just type in the exchange part of the number such as, 490 from 01-490-7161 and the prog tells you to dial 071 instead of 01.

ACCOUNTS: looks a nice easy program to help you find out how much in debt you are. The screen is laid out in a one month per page style and there are full docs on the disc to help you get the most from it.

FASTDISC: claims to be able to speed up your disc drive and text output to the screen by 20%. I don't have any specialist equipment to measure this claim but it didn't seem to do any harm either.

GHOST WRITER is included for writing your own scrolly loading screens but I think you'll like VORSPANN better which it is also on this disc.

RAMDISC II: will create a 64k RAM disc on your 6128. Once installed, the ram disk behaves in exactly the same way as a second disc drive and recog-



nises Amsdos commands plus its own RSX's. A good document file explains all.

PAGETEXT: is a text editor for those quick and dirty jobs when you don't need the full facilities of a word processor. Check out this excellent utility.

TUNEGEN: sounds like fun as it is an interrupt driven music creator. This means that it can play a tune (one note at a time) whilst you are doing something else. Multitasking on a CPC?

PB6128: is a clever idea that uses the 6128's extra 64k as a printer buffer, so while the printer is churning out reams of your prose, you can continue to use the computer. Again, full docs are provided.

DISC NURSE: is a little gem that is worth the cost of the disc alone. It is a disc menu that provides all the usual short-cuts to ERASE, USER, RENAME etc., but with one major addition - it also includes UNERASE. Now you can recover that file you thought you'd committed to the great trashcan in the sky, provided of course that you haven't written to the disc since you erased it!

CONPROG: is a neat program for converting imperial to metric. Options available are length, weight, temperature, currency and fuel.

SPEEDTST: could be interesting as it carries out a speed test on how your CPC functions are performing. Unfortunately there isn't any explanation with the prog and all it managed to do for me, was to tell me that my 6128 was performing like a 464.

VORSPANN: is a German coded scrolly demo writer that includes loads of colourful raster bars, scrolling text and all sorts of goodies.

There are still a lot of programs that I haven't been able to mention on this disc so I suggest you get a copy of your own. I'll be amazed if you're disappointed.

SELECTION 8 - YORKIE PD - [50p + DISC + SAE]

Selection 8 is a collection of graphics presented by a menu and very good they are too. There is not any credit given to the author (artist?) or any information on how they were done unfortunately. One graphic called 2010 made me laugh. It is of the infamous monolith but on closer examination you realise that the "monolith" is in fact a half buried 464!

SELECTION 12 - YORKIE PD - [50p + DISC + SAE]

This disc contains seven text adventures by Simon Avery. Simon's P.D adventures have a very good reputation for their humour and style and he has learnt from these early attempts and used the experience well, to develop into the commercial author that he has now become. Well worth 50p of anybody's money.

LIBRARIES

As usual, I'll finish off with a list of the libraries who have contacted me and sent in examples of their programs and / or a catalogue. If you are a Public Domain library or you wish to recommend one or even a particular program, then I'll be delighted to hear from you. You can write to me at PD Scene, CPC ATTACK, Floor 3, Greater London House, LONDON WC1 7QQ.

3D PD Library.
44 Echline Grove,
South Queensferry,
West Lothian, EH30 9RU.

ADVENTURE PD.
10 Overton Road,
Abbey Wood,
London. SE2 9SD.

DARTSMA PD Library.
47 Kidd Place,
Charlton,
London. SE7 8HF.

DEMON PD Library.
47 Hilton Avenue,
Hall Green,
Birmingham. B28 0PE.

EGERTON PD Library.
(Tape)
7 Linden Close,
Stafford,
Staffs. ST17 9TH.

PENGUIN SOFTWARE.
Ruxley House,
28 Mount Herman Road,
Woking,
Surrey. GU22 7UH.

ROBOT PD Library.
2 Trent Road,
Oakham,
Rutland. LE15 6HF.

SOUNDS LIKE PD.
6 Keyberry Park,
Decoy,
Newton Abbot,
South Devon. TQ12 1BZ.

YORKIE PD
11 Beechwood Avenue,
St. Albans,
Herts. AL1 4XP.

The above librarians will be happy to send you a stock list but please include a stamped self addressed envelope.

For those of you with a Modem, you can try down-loading some free Public Domain programs from the CPC/CPM file areas on:-

PRESTON ROS 0772 652212 (24 hours)

ARCADE FANTASY 0533 376056 (8pm - 8am)

A SCROLLY DEMO

Dust down your assemblers and limber up your fingers - we're going to write a scrolly...



Demos are an up-and-coming part of CPC programming circles and scrolling messages, or "scrollies" to the initiated, are a main part of any programmer's work. In its usual form, the message scrolls across the screen, usually moving horizontally from left to right. It will contain "greetings" to other demo writers, the programmer's opinions on the CPC world and things like details of previous and forthcoming demos.

The first task is to plan exactly what the program will do. The mainstay behind a scrolling routine is to move a section of the screen left, by shifting bytes in the screen memory, and to print the next character of the message to the right of this. This process is repeated again and again, thus creating a scrolling effect! The process must be synchronised to the display's "frame flyback" (vertical blank) to ensure smooth movement. The message we will create will be scrolled across the bottom two lines of the screen, with the message being repeated on both lines.

> If you've got any questions about demo coding, machine code programming, or if you've written a demo which you'd like to show off to the world, or if you want your demo distributed throughout Europe, write to:
> DEMO Q&A
> PROGRAMMING Q&A
> DEMO ZONE
> at:
> CPC ATTACK
> HHL PUBLISHING
> Floor 3,
> Greater London House,
> Hampstead Road,
> LONDON NW1 7QQ.
> or FAX: 071-387 9518

The most difficult aspect of writing screen routines is understanding how the screen memory is laid out. The Address in memory of the start of a row can be calculated by:

address=&C000+(row*80)

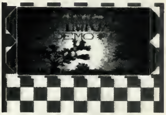
where row is the row number 0-24 (not 1-25). The equation is explained in that each screen row occupies 80 bytes, and that screen memory begins at address &C000 (49152 in decimal). This only calculates the start address of each character line, which itself comprises eight pixel lines. To address subsequent pixel lines, &800 must be added to the character line start address. The only remaining piece of information needed is that the remaining data for the line follows on sequentially from its start address.

We need the addresses for the bottom two lines of the screen, i.e. lines 23 and 24 (counting from 0). Using the equation, they are calculated at &C730 and &C780 respectively. To move these lines left, we'll have to shift a block of 79 bytes - the whole line minus one byte, from, for example, &C731 to one byte left, that is &C730. This will not only have to be repeated for &C781 to &C780, but for all other pixel lines: that's &CF30 (&800 added to &C730), &D730, &DF30 etc..



Once this has been done, we can print a new character at the right of the screen. To do this, an address pointer is needed to mark where to fetch the next character to be printed. This pointer is updated each time a character is fetched. Unless you have a very large RAM expansion for your CPC - say about five megabytes - your scroll is probably going to end somewhere and return to the beginning, so a marker will need to be put in to tell the program to do this. The easiest way to do this is to put a zero byte at the end.







As for actually printing the character, for the time being we can use the firmware routine at &BB5A, which just prints a character on-screen. Later on in the series, the secrets of printing large, sprite-style letters will be revealed, but until then a simple character print will do.

We could scroll the line left by one whole MODE 1 character



(two bytes) and print a new character each frame flyback. This, however, is too fast to be readable. The solution is to scroll the line left by one byte - only half a MODE 1 character - each frame, and consequently print a new character every other frame.

Finally, on to the bits'n'bobs needed to make the demo work. The demo will have to sit somewhere in memory - &8000 will do nicely. The code also needs to set up the MODE and synchronise the scrolling to the frame flyback. Both of these functions are done using firmware calls.

Next month, we'll be covering those infamous rasters: what are they, how are they programmed, do they require regular feeding, and can you take them out to the cinema without fear of being ostracised socially?

THE CODE

This is the final code. Hopefully you'll understand each instruction, but don't worry if you don't yet! The comments, which are preceded with semi-colons, don't need to be typed in.

The listing can be typed into your assembler, such as MAXAM, and assembled to produce a real, live, scrolling message - and then customised to your heart's content...

```
        org &8000               ;the code sits at &8000
        ld a,1
        call &BC0E              ;set mode 1 using the firmware
ffloop: call &BD19              ;wait for frame flyback
        ld de,&C730             ;the first line to scroll
        call scroll             ;call the scroll routine (see below)
        ld de,&C780             ;and the bottom line
        call scroll
        ld a, (toggle)          ;get the toggle value
        xor 1                   ;and toggle it between 0 and 1
        ld (toggle),a           ;store the new, toggled value
        jr z,ffloop             ;if it's 0, loop back

; you only get here after every other frame
        ld hl,(pointer)         ;get the current text pointer
        ld a,(hl)               ;and the character from it
        or a                    ;is it 0 - end of text?
        jr nz,not0              ;if not, skip this bit
        ld hl,message           ;start the text again
        ld a,(hl)               ;and get a character from it
not0:   push hl                 ;preserve HL from corruption
        push af                 ;and the same for A...
        ld hl,&2818             ;column 40, line 18
        call &BB75              ;like locate - corrupts AF,HL
        pop af                  ;restore A
        call &BB5A              ;and print the character
        push af                 ;same as above
        ld hl,2819              ;except for one line down
        call &BB75
        pop af
        call &BB5A
        pop hl                  ;restore HL!
        inc hl                  ;increase to the next position
        ld (pointer),hl         ;and store it as the pointer
        jr ffloop               ;finally, loop back!
scroll: ld a,8                  ;8 pixel lines to scroll
sloop:  ld h,d                  ;set HL (where we are moving
        ld l,e                  ;bytes from) to equal DE...
        inc hl                  ;plus one!
        ld bc,79                ;scroll 79 bytes
        ldir                    ;move the memory!
        ld bc,&7B1              ;we need to add &800 to get to
        ex de,hl                ;the next line, minus the 79
        add hl,bc               ;already added by the LDIR
        ex de,hl
        dec a                   ;have we done all the lines yet?
        jr nz,sloop             ;if not, go and do the next one!
        ret                     ;return from the subroutine
toggle: defb 0                  ;toggles between 0 and 1 to determine
                                ;whether to print a character or not
pointer: defw message           ;current text pointer value
message: defm "The CPC Attack demo column....        ",0
```

ELEMENTARY BASIC

ATTACK TUTORIAL



Get into this new series which will build into the most comprehensive manual on CPC BASIC available. Save these pages together with the Advance BASIC series to compile your own reference book.

To truly understand how the software works it is necessary to learn how to write your own programs. The programming language provided with the CPC is called BASIC, but it isn't simple, far from it. Programming is the ultimate challenge a computer can offer. Computer programming has become less fashionable, and yet, there is a need for programmers to write tomorrow's software. So come on, use your time constructively learning a computer language.

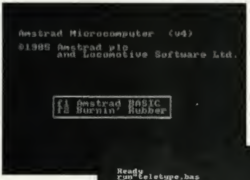
BASIC

The BASIC language is part of the software within the CPC, the moment you switch on, BASIC is available. You will get a number of people saying "Why Learn BASIC, proper programmers use C or Pascal. No other language offers the flexibility and BASIC is provided with most computers.

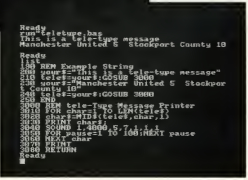
INTERPRETERS AND COMPILERS

BASIC on the CPC is an Interpreted language. BASIC code is converted into machine code (The code the computer understands), and executed one line at a time. This operation continues until the end of the program. Because only small sections of code are converted to machine code and executed at a time, the BASIC Language has a form of two way conversation with the computer. The major advantage of an Interpreted language is, if things go wrong you can normally press the ESC key and take corrective action. This system of interpreting allows for experimentation and programming errors, but has the disadvantage of slower operating speeds as the program is converted at run-time. Most other languages are termed as compiled languages. That is, the complete code is written in a pseudo-code and converted into a stand-alone machine code program. When RUN, these programs do not need to be interpreted by BASIC, and are therefore considerably faster.

With compilers you must write a method of exiting into the program in case it does not work - you have to study your code and adjust before re-compiling. Compiled programs work faster than Interpreted programs for the above reason. Speed, and security - you can not look at the original code - are probably the major advantages of a compiled language and, for most machines, you can now buy BASIC Compilers.



The PLUS machines provide a menu from which BASIC can be entered



BASIC can be used to write aii kinds of usefui utilities

EDITOR

When you switch on the CPC you are presented with a line editor (A Simple Word Processor). You can type in a sentence, delete the last character typed using the key "DEL" and if you press the ENTER or RETURN key the computer will try to understand what you have

typed. You will most likely get the message "SYNTAX ERROR" which means the computer can not understand your command.

Now let us try some commands the computer does understand. Type in the lines below pressing the RETURN or ENTER key when you reach the end of the line. This time you should get a reaction. NOTE 0 is zero and o is letter o. ie. mode 0 is mode zero.

```
mode 2
mode 0
mode 1
sound 1,478,1000,7
draw 640,400,2
print pi
cls
```

You have just been using BASIC keywords which are understood by the computer. You can add more than one command on the same line, when typing in the next line only press ENTER or RETURN when you have typed in the i of pi.

```
mode 0:sound 1,478,1000,7:draw 640,400,2:print pi
```

You have now written a short program in direct mode. To convert back to the normal screen Enter (Type in the command and press RETURN or ENTER)

```
mode 1
```

When using direct mode, the computer attempts to carry out the instructions. If the command was to change mode, as in the above example, the screen is cleared, wiping any memory of the line you have written. By adding a line number at the beginning, you change the system from direct mode to program mode and the line is stored in memory. Enter the following line. (Type in the commands and press RETURN or ENTER)

```
10 mode 0:sound 1,478,1000,7:draw 640,400,2:print pi
```

Exactly the same line, but with the addition of the line number 10. This time, nothing appears to happen when you press RETURN or ENTER key. The line has been stored in memory. To carry out the instructions enter.

```
run
```

The same result as in direct mode, only this time you can use the program again. Enter the following two lines to change the display and "Run" the program again.

```
mode 2
run
```

So where is the program. Enter

```
mode 1
list
```

The stored line is displayed. Notice that all the keywords are now in capital letters. This is an excellent feature of Locomotive BASIC for the CPC, if you spell a keyword incorrectly it will stay in lower case when listed, making the mistake easier to see. Now lets add two more lines to the program. Enter the two lines below.

```
5 rem A Demonstration Program
20 print "Press Any Key":call &BB18:REM its BB one eight
```

Now Enter

```
list
```

Note that the line 5 is placed above 10 in the correct numerical order. Now run the program

```
run
```

This time the program displays 'Press Any Key' and stops the Ready prompt from appearing. If you press a key the Ready prompt will re-appear. Enter

```
mode 1
list
```

From the two lines added, line 5 did nothing to the display. The keyword REM is used to make a REMark on the listing (A short note). The BASIC program ignores any information written after a REM statement until a new line number is met. REM is without doubt the most important keyword in the BASIC language as it allows you as a programmer to make notes within your listing. On line 20, REM is used to avoid problems with CALL &BB18 where number 1 can be mistaken for letter l.

KEEPING YOUR PROGRAM LISTING

If the power to your computer is switched off the memory is lost. It is therefore necessary to make a copy of the program in memory on Disc or Tape. To save this program enter

```
save "demoprog"
```

This 3 line program will be saved onto Disc or Tape under the filename DEMOPROG. DEMOPROG is known as a file and if you have a disc drive connected the filename can only be eight characters long. When saving programs, always try to make your file names meaningful, describe the program as best you can. When you save a program, you actually produce two copies, one still in the memory and one on Tape or Disc.

DISC OR TAPE CONTENTS

To find out what files are held on Disc or Tape the keyword CAT is used. With a disc system, CAT will show you all the files on disc within a couple of seconds. The tape CAT plays the tape and shows you the contents of the tape as it reaches each program, this can take up to 45 minutes on a C90 tape. When using tape, you need to zero the counter at the start and keep a record of the start position for each program. It is also best to use short data tapes C10 or C15 or you could be waiting around for ages. When using CAT on tape you stop the listing by pressing the ESC key.

Enter

```
cat
```

REMOVING A PROGRAM

To remove a line from a program all you need to do is enter the number. (Type in the number and press RETURN or ENTER) as below.

```
5
list
```

Line 5 has now been removed from the listing.To clear the whole program Enter

```
new
list
```

The memory is now totally blank ready for the next program.

RETRIEVING A PROGRAM

To continue with a program you have previously Saved, locate the program using CAT and, if you are using Tape, move the tape to just before the start position and enter:

```
load "demoprog"
```

This will make a copy of DEMOPROG in the computer memory. You can now add to the program. RUN the program or edit it in some way. WARNING: When you load in a program, only that program exists, all other listings previously held in memory are cleared.

BACKUPS

When saving program listings onto Disc or Tape, always make at least two copies. If you save only one copy you may find that an error arises and you may have to re-type in the whole program again.

IMPORTANT KEYWORDS

REM REMark - Write program notes or headings in the listing.

RUN Carry out the instructions in the listing.

LIST Display the listing.

NEW Erase the listing from memory.

: The colon separates BASIC statements, allowing more than one statement per line.

CAT Display on screen the contents of the Disc or Tape.

LOAD Load in a program from Disc or Tape.

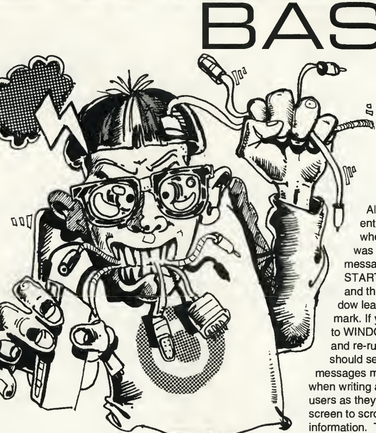
SAVE Save from the computer a copy of the listing to Disc or Tape.

The keywords MODE; SOUND; DRAW; PRINT and CALL were used as examples and will be fully explained later in the series.

Next month SCREEN DISPLAY

ADVANCED BASIC

ATTACK TUTORIAL



In this new series, learn how to develop your software to make it more professional, user friendly and foolproof. Collect each part monthly to build up a completeADVANCED BASIC guide.

The routines and methods that we'll be looking at throughout this series would have to be tackled no matter which programming language is used. If you have a good knowledge of programming and are learning a new language, the first routine you would probably write is an Input routine so that is where we'll start.

USER ERRORS

As a programmer you can write a simple program which provided you keep to the rules will work perfectly well. Give that same program to another person and it will crash or give the wrong answers because the exact rules were not followed. As a programmer you must never lose control of the program, you must always check what information is being entered and only accept the information you require.

KEYBOARD ENTRY

In BASIC the keyword to ask for information from the keyboard is INPUT but when INPUT is used, control of the program is lost. There is no way of checking the information until the Enter key is pressed. The next program shows the problems with INPUT.

```
10 REM Demonstration of INPUT problems
20 MODE 1
30 WINDOW #0,1,39,23,23
40 WHILE number<>10
50 PRINT "Enter a number between 1 and 10";
60 INPUT number
70 IF number>0 AND number<10 THEN SOUND 1,number*100,100:REM Produce a sound higher in pitch the lower the number.
80 WEND
90 END
```

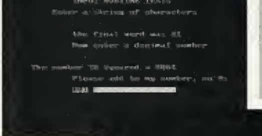
Run the above program and enter the test data below. Note the results.

Test Results:

Input	Result
7	Accepted OK.
3	Accepted OK.
eight	Not accepted left a question mark
6.7	Accepted but was asking for a whole number
100000000000	Prompt string is lost after the fifth 0 can not edit and did not accept
10	OK and left loop.

You can see from the example, that when INPUT is used the user has the control and the computer relies on them entering what is required.

Although not apparent from the program, when the word "eight" was entered the error message "REDO FROM START" was displayed and this scrolled the window leaving the question mark. If you change line 30 to WINDOW #0,1,39,23,24 and re-run the program you should see the result. Error messages must be suppressed when writing a program for other users as they can cause the screen to scroll removing vital information. The "REDO FROM START" error message means the user has typed in a character when a number was required by the program. To avoid this error message you must always take in any information from the keyboard as a string (character) and convert it to a number when checked.



When you've typed in the listing, this is what you should get



Learn how to create simple but effective programs to do this

THE INPUT ROUTINE LISTING

```
100 REM ***** Input routine test *****
110 REM Lines 100 to 280 are demonstrations
120 MODE 1
130 REM Test all three routines strings, decimal numerics and whole number input
140 LOCATE 10,2:PRINT "INPUT ROUTINE TESTS"
150 REM String Input
160 LOCATE 6,4:PRINT "Enter a string of characters"
170 ans$="":x=15:y=6:w=10:bad$="ú$%^&*()":numstr=0:fcol=3:bcol=1:GOSUB 5000:REM Ask for a string
180 LOCATE 10,8:PRINT "The final word was ";ans$
190 LOCATE 10,10:PRINT "Now Enter a decimal number"
200 ans$="":x=16:y=12:w=8:bad$="":numstr=1:fcol=2:bcol=0:GOSUB 5000:REM Ask for a decimal number
210 numdec=VAL(ans$):REM Extract the number from the string.
220 LOCATE 10,14:PRINT "The number ";ans$;" Squared=";numdec*numdec
230 LOCATE 10,16:PRINT "Please add to my number, no 9s"
240 ans$="99":x=10:y=18:w=20:bad$="9":numstr=2:fcol=0:bcol=1:GOSUB 5000:REM Ask for whole number. Do not except 9s
250 numwhole=VAL(ans$)
260 LOCATE (24LEN(ans$))/2,20:PRINT numwhole
270 END:REM End of Demo
280 REM ****************************
5000 REM Input Routine
5010 REM variables required. ans$ x y w numstr bad$ fcol bcol
5020 PEN fcol:PAPER bcol:REM Change colours
5030 LOCATE x,y:PRINT SPACE$(w);:GOSUB 5250:REM Make a space for the input and print the cursor. Notice the semi-colon this allow inputs on the bottom line.
5040 IF LEN(ans$)>0 THEN LOCATE x,y:PRINT ans$;:REM Print out the contents of ans$ if they exist.
5050 trip=0:WHILE trip=0:REM trip=the loop flag
5060 k$="":WHILE k$="":k$=INKEY$:WEND:REM Scan the keyboard until a key is pressed.
5070 REM check the key pressed
5080 IF numstr=0 AND ASC(k$)>31 AND ASC(k$)<127 AND w<LEN(ans$) AND INSTR(bad$,k$)=0 THEN ans$=ans$+k$:GOSUB 5250:REM String input
5090 IF numstr>0 THEN numchk$="1234567890"
5100 IF numstr=1 AND INSTR(ans$,".")=0 THEN numchk$=numchk$+".":REM Add the decimal point.This permits only one decimal point.
5110 IF numstr=1 AND INSTR(numchk$,k$)>0 AND w<LEN(ans$) AND INSTR(bad$,k$)=0 THEN ans$=ans$+k$:GOSUB 5250:REM Real Number Input
5120 IF numstr=2 AND INSTR(numchk$,k$)>0 AND w<LEN(ans$) AND INSTR(bad$,k$)=0 THEN ans$=ans$+k$:GOSUB 5250:REM Whole number Input
5130 IF ASC(k$)=127 AND LEN(ans$)>0 THEN ans$=LEFT$(ans$,LEN(ans$)-1):GOSUB 5200:GOSUB 5250:REM Delete last character
5140 IF ASC(k$)=13 THE trip=1:REM Leave loop on Enter being pressed
5150 WEND:REM End of loop
5160 PEN 1;PAPER 0:LOCATE x,y:PRINT SPACE$(w):REM Delete the input string
5170 RETURN:REM Return with the new ans$
5200 IF LEN(ans$)<w-1 THEN LOCATE x-LEN(ans$)+1,y:PRINT " ";
5210 RETURN
5250 REM Print last character in the string ans$ with a cursor to clear unwanted characters
5260 IF LEN(ans$)<w THEN ps$=RIGHT$(ans$,1)+CHR$(143) ELSE ps$=RIGHT$(ans$,1):REM If lenth ans$=w then do not print cursor
5270 noans=1:IF LEN(ans$)=0 THEN noans=0:REM Check for empty ans$ and change print position (noans)
5280 LOCATE x+LEN(ans$)-noans,y:PRINT ps$;:REM noans will be 0 or 1
5290 RETURN
```

VARIABLES

ans$ The input string
x The start position from the left.
y The start position down.
w The maximum width of the input string.
numstr A flag for strings or numerics.
numstr=0 for strings.
numstr=1 for numeric.
numstr=2 for Whole number numeric
bad$ A string of unwanted characters.
fcol The foreground colour (pen).
bcol The background colour (paper).

Enter RUN to test the program and see the demonstration. When using this sub-routine you must have all the variables set, which is what lines 100-280 do. You can of course set some of them at the start of the program i.e. bad$; fcol; bcol.
When you have the program running correctly save the whole program and then DELETE 100-280 and save as INPSUB5K in ASC form (SAVE "INPSUB5K",A). You should aim to save all your sub-routines so that when you write a fresh program you can merge several sub-routines building the main body of the new program. It is also a good idea to name your sub-routines so that they tell you the purpose and the start line number as above INPSUB5K (INPut SUBroutine 5K at 5000).

CONSIDERATIONS

- Each character must be checked as it is typed in and only accepted if correct.
- Each character entered can be checked against a list of unwanted characters.
- An unwanted character string can be set up.
- A variable can be set to state numeric or string input.
- A variable can be set for the maximum length of input.
- The X and Y position of the Input can be stated.
- A pen and paper colour can be stated.
- If the input string has contents when the input routine is first used display these contents on the input line. This can be useful when file handling as you can suggest a file name or repeat a name used before.

Try to improve the routine for your own use, you could add two variables for numeric input to give you a maximum and minimum value or allow editing of the input line (Insert and Overwrite). If your program saves and loads files you could add a line to convert all input into uppercase (k$=UPPER$(k$)) if the length (w) is 8, this will show the filename as it will appear on disc.

Next month PROGRAM DESIGN

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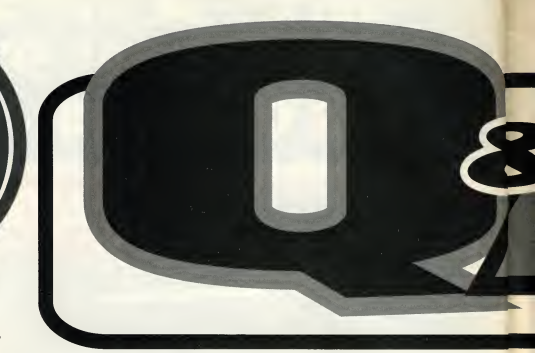
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"Mister, my CPC won't work, and I'm gonna cry." There, there, there... Arnold is at hand to dish out the proverbial CPC Elastoplast.



TECHNICAL Q&A

Q I own an Amstrad 6128+ and would like to add a cassette player to it so that my children can easily afford the games. I have seen an advert of Wave's to convert the base to accept tapes but I am reluctant to send the computer through the post. Do you know of anywhere more local to me that could carry out the conversion.

A To be honest, I think WAVE are likely to be your best bet. The actual conversion is not too complicated but it does require some familiarity with the innards of the 464+ & 6128+ machines. Having said this, you might like to try contacting your local computer shop or TV repair engineer to see if they would be willing to tackle it. Fortunately, the actual circuit boards used in both 'plus' machines are identical, so by examining a 464+ (specifically how its cassette player is connected to the main board) it should be possible to see where to solder the wires from your external tape deck. The TAPE command will then allow your computer to access cassette software. For complete compatibility, ensure that your cassette recorder has a 'remote' socket so that the computer can control its motor.

Q I have recently purchased some second-hand equipment for my CPC 6128 and one of the items is a DK'Tronics silicon disc. I would be very grateful if you, or one of your readers, could give me some info to help me over some problems I have encountered with this device. First of all, I found along with other bits of paper some instructions from DK but the section on using the silicon disc in CP/M (section 4) does not work. I cannot get past the instruction 'MOVCPM 176 *' - the computer just throws back the question mark. Also I think there must be a way of formatting the disc in some way since if I ask it to load/save a disc of files for example and then try to save something else, because there is free space available, it just overwrites the new instruction and loses the old files. I have tried in vaine to find out if DK are still in business but directory enquiries cannot find them so I cannot go direct to them for help.

A Firstly, DK'Tronics is no longer in business though a handful of their products are still being marketed by Datel Electronics (0782 744324). It's been a long time since I've used their silicon disc so bear with me while I struggle to remember the finer points of its operation. If all is well, the message "Silicon Disc [version no.]" appears when the machine is switched on, and two new RSX commands - |SAVEDISC, |LOADDISC - are installed. The unit is accessed as drive B: or C:, depending on the number of extra drives you already have connected, and will respond to all the normal AMSDOS disc commands. Because the disc stores information in standard memory chips as opposed to magnetic media, it does not need formatting before use.

The two RSXs mentioned earlier are used to facilitate the wholesale transfer of files to/ from a conventional drive. However, due to the silicon disc's extra storage capacity, there are some quirks to watch out for. |LOADDISC copies the contents of a floppy disc onto its silicon counterpart, erasing any files that are there already. When you think about it, this is a pretty logical thing to do, after all, disckit3 does exactly the same. Confusion occurs because of the free space reportedly still available on the silicon disc - unfortunately, |LOADDISC is not clever enough to take advantage of it. |SAVEDISC also encounters problems for the same reason when performing the reverse of this process. Once the silicon disc has around 180K of data stored on it the command fails to work, leaving you to manually transfer selected files.

Now onto silicon disc operation from within CP/M. Things start to get a little more complicated here as our beloved operating system needs a bit of customising before it will recognise your new toy. Initially, the command |SETCPM needs to be executed from within BASIC to install the file SDISC.COM on a disc. In order for SDISC to work, CP/M must be relocated by means of the MOVCPM and SYSGEN commands. The fact that you've been unable to get MOVCPM to work suggests that you have not yet discovered one of the biggest incompatibility with the early silicon discs (v1.0) - it will only function with CP/M 2.2! The problem is quite simply that CP/M+ does not have a command equivalent to MOVCPM and, without this, cannot execute SDISC.

Ensure that you have made a backup of CP/M2.2 before proceeding with MOVCPM (located on side 4 of your system discs) followed by SYSGEN. Eventually you should end up with an alternative version of CP/M2.2 capable of executing the SDISC program, thus allowing the use of your silicon disc. You may find problems using certain CP/M software packages with your customised system because of its smaller TPA (transient program area).

If any readers have discovered ways to overcome problems associated with DK'Tronics' silicon disc then why not send them in so others can benefit.

Q Perhaps you can be of some assistance to me in my plight to find out how the 'Utilities' disc works. I purchased a 6128+ for my son at Xmas 1990 and for most of 1991 the computer was used for playing games or programming BASIC. We have now decided we would like to use the utilities disc, which we can start OK, but we are unable to run any of the programs. I thought that possibly the instruction book had been omitted at the time of buying, so I wrote to Amstrad twice, only to get the same answer which was to phone a help line at 48p a minute. As you can imagine, for a company so large, I was disappointed with this solution.

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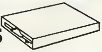
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A I have to confess to being a little puzzled as to precisely which 'utilities' disc you mean. The only one I can think of is the CP/M+ System/Utilities disc that comes with every CPC, although I feel sure you cannot mean this one because it's so obscure. If you do, then all I can say is that you'd be better off leaving it alone as the programs on it are rather antiquated and to label them as being specialised is somewhat of an understatement. Full details can be found in SOFT971 - "A Guide to CP/M Plus". If you would like to write in giving some more details, preferably enclosing a copy of the disc, I'll try to be of more help.

Q Is it possible to buy a printed circuit board designing program for the CPC 6128 and, if so, where does it come from and how much does it cost? Secondly, I have a 6128+ and a star LC200 printer. One of the main reasons for buying the computer was to use the eight bit printer port. However, I still can't print anything above character 127. I have checked and re-checked the settings in the printer, but I have had no luck. How do you use the mysterious eighth bit? Does it exist at all, or is it all some plot by Amstrad to deceive innocent customers? If it is, I'm not impressed.

A The only PCB designing program I can recall hearing of for the CPC range is 'PCB Designer III' which was being marketed by John Morrison around three or four years ago. I doubt very much whether it is still available but you may be able to pick up a second-hand copy somewhere. As the software was sold on a cartridge (ROM) the price was quite high at ú89.95 (ú25 for an evaluation version), but it was able to handle double sided boards 200mm x 131mm using a selection of predefined symbols, including DILs & IDCs, and boasted auto routing and common bussing among its list of features.

Another possible source of PCB software is the public domain. It's this sort of highly specific application that PD authors are famed for supplying, so why not try one of the many thriving CPC libraries. If this fails then the only alternative is to write your own or to persuade somebody else to write one. This isn't necessarily as difficult as it sounds if you do away with such features as auto routing and large libraries of predefined symbols. I wrote a fairly simple program myself some years ago for a specific PCB I was working on but I wouldn't wish that system on anybody. The end results were pretty good but the program wasn't exactly friendly to use, if you catch my drift. The hardest thing is making the printed output conform to the standard 0.1" spacing, especially if you're using a 9-pin dot matrix printer that employs a 1/72 or 1/216 spacing. An easier alternative is a 24-pin version or, even better, a plotter. Whichever you use, you will probably find that the best results are obtained if the artwork is printed at twice the size, and is then photographically reduced by your local printing shop.

As for your other point, I can assure you that the mysterious eighth bit does exist and that it is not some cunning plot by Amstrad to deceive innocent computer users. The problems you are experiencing are probably due to software that was written before the 'plus' machines came along, and therefore sends only seven bits of data. Make sure that your printer is set to receive eight bits and not seven - usually determined by a DIP switch. One point to note is that many printers only have 128 different characters in their memory so characters numbered 128-255 are exactly the same as those from 0-127 (this is not true of the IBM extended character set). Thus, PRINT#8,CHR$(65) and PRINT#8,CHR$(193) would both output the letter 'A'. This makes it rather difficult to tell if bit 8 is actually being used!

To remedy this I have concocted this little program:

```
10PRINT#8,CHR$(27);CHR$(75);CHR$(127);CHR$(0)
20 FOR N=0 TO 127
30X=INT(N/16)
40X=2^X
50PRINT#8,CHR$(X);
60 NEXT N
70PRINT#8,CHR$(12)
```

When RUN it will produce a staircase pattern on your printer, or rather the piece of paper in your printer. Simply count the number of 'steps' (short horizontal lines) in the pattern to ascertain the number of bits of information that were sent to the printer, 7 steps=7 bits, 8 steps=8 bits etc. I hope this program puts your mind at rest. A useful advantage of an 8-bit printer port is having 'true descenders' with print enhancement utilities such as Qualitas. Fortunately these programs are usually designed to send eight bits and should therefore work well on your machine.

PRINTER Q&A

Q I have a CPC 6128 and a Citizen Swift 9 printer bought as a birthday present. I wonder if you could solve a small problem for me. In the user's manual are some programs which use LPRINT and it states, "If you are using an Amstrad CPC series computer you will need to replace the LPRINT statements in the sample programs with PRINT#8". No way can I get these to work, all I get is a syntax error. Any Ideas?

A Without any more details it's difficult to pinpoint the exact cause of your stubborn syntax error, but one possibility does leap to mind. The BASIC programs in Citizen's manual probably use the LPRINT command in the following manner:

```
10 LPRINT "Hello World!"
```

If you convert this to

```
10 PRINT#8 "Hello World!"
```

then a syntax error will definitely result. The PRINT#x command's syntax requires a comma to be inserted between stream number and parameter, in other words:

```
10 PRINT#8,"Hello World!"
```

Thus, to demonstrate the underlining facility of your printer, type in and RUN this short program:

```
10PRINT#8,CHR$(27);CHR$(45);CHR$(1);
20PRINT#8,"Underlining";
30PRINT#8,CHR$(27);CHR$(45);CHR$(0);
40PRINT#8,"adds emphasis!"
```

Remember to include those commas!

Q Why isn't my printer working properly? It starts OK, but then prints misspelt words which often degenerate into garbage. Sometimes it simply ejects the paper.

A Did you ever get the feeling your printer was trying to tell you it's not receiving the right signals from your computer. No, there is nothing wrong with the software, or the printer. What is almost certainly happening is the stream of data from computer to printer is getting corrupted along the way. Something has come between them and that "something" is probably the printer lead or computer interface connection. If you own a spare lead, plug it in and try again. Still no joy? Clean the connections at the back of the computer using a pencil eraser. DON'T use one of those electrical contact sprays. It might work initially, but, despite what the manufacturers claim, invariably leaves behind a tiny amount of unidentifiable "crud

PROGRAMMING Q&A

Q When typing in listings I often find lines within the code which I believe I have typed in correctly but when run give a syntax error. An example of a line like this is.

1000 CLS:1=20

A The problem here is a common fault. When assigning a variable the variable's name must begin with a letter.

If the variable is only a single character it must be a letter. In this case because of the similarity between the typeface for letter (l) and number (1) a simple mistake has been made. Change the number (1) to letter (l).

Q I have discovered that instead of typing REM when I want to make a note in my listing a I can use an ' as below.

10 REM This is a remake

20 ' This is also a remake.

Is there any reason why you should not use (')?

A The use of the ' as a REM is quite legitimate, but although it is easier and quicker to type there is one draw back it uses up twice the memory. Keywords are not stored depending upon their length but as tokens, these tokens are, in most cases a number between 1 and 255. Your Amstrad has a Basic language which has more than 255 Keywords which means that some of the keywords will require a number greater than 255.

One byte of memory can contain a number up to 255 and if the number is greater two bytes are used, this is the case with REM token number is 197 and the ' token number is 256 (255 and 1). Avoid the use of ' for two reasons: it uses up more memory and it is not as clear when reading the listing.

Q Is there something wrong with my Amstrad? When writing programs to carry out calculations I often get an incorrect answer. I believe the part of the computer which calculates is called the ALU (Arithmetic Logic Unit), is mine not working correctly?

A I would imagine that your ALU is working correctly (They either work or they don't work at all). When you divide using decimals there are times when the correct answer is not given due to the fact that you can not divide 10 by 3 exactly i.e 10/3 as a fraction is 3 1/3 which is perfect 10/3 as a decimal is 3.33' where the 3s continue forever, this is not perfect.

The Amstrad does try and correct this problem by using a rounding factor. Try

PRINT 3.33333333*3

PRINT 3.333333333*3

If a number with greater than 8 decimal places is produced, the number is rounded.

Answers 9.99999999 and 10

When using numbers, use the keyword ROUND to ensure accuracy.

The second reason where you may get inaccuracy is in mathematical precedence, as dealt with in the next question.

Q I am not very good at maths but want to write programs to calculate certain answers. When I write in a formula the correct answer is not given. This is something to do with the way the computer takes in the numbers. Please can you explain?

A When calculating sums you tend to work from left to right taking each number in turn and carrying out the operation (+-/*).The computer has an order in which it takes these operations. eg.

by hand

3+4 /2 =(3+4)/2 = 7/2 = 3 1/2

by computer

3+4 /2 = 3+ (4/2) = 3+2 = 5

This is called mathematical precedence and any equation calculated by a computer will be taken in the following order. Brackets (....) * / + - and then functions such as SIN COS and MOD.

To ensure an equation is calculated in the way you require place brackets around the parts that need to be worked out first. i.e

(3+4)/2 = 7/2 =3 1/2

Q Can you explain the line below?
1000 IF flag THEN GOSUB 3000
Why is the variable 'flag' not equal to anything.?

A When checking for conditions a binary check is available. A binary check simply means two conditions zero and non-zero. The statement 'IF flag THEN' is using this binary check. If the variable 'flag' is greater or less than zero (0) then the sub-routine at 3000 will be called, if 'flag' equals zero (0) then the condition is not met. It is the same as saying

1000 IF flag<>0 THEN GOSUB 3000

Another example of using a binary check is within a loop.

```
10 REM Binary check example
20 check=999:REM Set variable 'check' to 999
30 WHILE check:REM Loop while 'check' does not equal zero.
40 check=check-1:REM Reduce 'check' by 1
50 PRINT check:REM Print the value of 'check'
60 WEND:END
```

This will work fine provided that the variable 'check' will become zero (0). If you change line 40 to check=check-2 the loop will never end and you will need to press ESC twice to stop the program.

Q I have written several large programs and find that I tend to run out of memory. Can you give me any tips on how to reduce the size of my programs without effecting the functions available within the program?

A You have about 40K of programming space on the Amstrad and when writing in Basic there are three sections which take up memory.

1. **Arrays, Strings and Variables**
2. **Reserved Memory**
3. **The Program listing**

To claim back more programming space and to reduce the size of your program you need to check the following.

Always keep a copy of your original program for reference.

1.Arrays

Are all the arrays necessary?

Are you using the arrays from 0. With DIM word$(10,10,10,10) if you neglect 0 then you are reserving 1000 string spaces and not using them.

Reduce variable names down to single or double characters.

2.Reserved Memory

Have you reserved only the memory which you require.

If you have used a machine code routine out of a book/magazine, is the reserved memory in the right place for your program.

3.The Program Listing

Remove all information after REM statements and if necessary remove the REM. Check to see if the line containing the REM is the start of a sub-routine or being called in some way before removing.

Check for Spaces between keywords and at the end of lines. This is a common fault where addition spaces are placed on lines, each space takes up a vital byte.

To check for un-wanted spaces redefine CHR$(32) i.e. With the listing being checked in memory enter in direct mode.

SYMBOL AFTER 32

SYMBOL 32,0,0,0,0,126,60,24,0

This will redefine all spaces to a triangle. List the program and you will see any addition spaces.

If all this fails to give you more space then you will need to re-design the program, look for unwanted code and perhaps split the program into two, chaining in parts of the program when required.

WORDPROCESSING Q&A

Q How can I get print effects such as outline and shadow? My printer manual says they are available, but doesn't tell me how to use them.

A Both Protext and Brunword Elite will allow you to enter printer control codes (escape codes) in the text. These are listed in your printer manual in two ways: decimal and hexadecimal. Both WPs require decimal codes, i.e. 27 113 1 for outline and 27 113 2 for shadow.

In Protext, these codes can be assigned to a letter such as <o> for outline and <s> for shadow. Simply call up SETPRINT and reply YES to "Change Control Codes?" When confronted with the menu, select the chosen letter(s) and type in the codes for ON. Don't forget to save the alterations as a new printer driver. The effects can now be embedded in the text by using the CONTROL "X" command.

With Brunword Elite, the codes can only be entered into the document by using the incode system, ">". This is proceeded by the letter "P", which indicates a printer command. The control codes are then typed in and preceded by the total number of the separate numbers. So, for outline effect the following sequence is used; ">P3 27 113 1"

That's all there is to it!

Q When using Brunword's HEADLINE routine, how can I increase the line width to more than 80 columns without using the 128 column screen display?

A The secret is to make full use of Brunword's sophisticated justification and margin control system. For example, if you require a line width of 100 characters, with a left margin of 5 and full justification, leave the screen margins at 1 and 80. Use incode M, i.e. ">M", to set the margin offsets with the following sequence; ">M5 105". This has to be combined with TWO justification commands, the ELITE command "J4" and the normal HEADLINE command "J3". The reason for the former is that "J4" tells the printer to ignore the line ends on the screen and fill the line according to the character width. HEADLINE's "J3" command will then give you full justification across 100 columns.

Q I want to buy a word processor for my CPC, is Brunword better than Protext?

A I'm glad you asked that question! Obviously, such a decision can only be made if you know exactly what you want from a word processor - which is only half of the equation. The other half is to know exactly in which area each program excels and then buy the right one for you.

If you can bear to wait, CPC ATTACK will help solve your dilemma in the next issue, with the most comprehensive TEST DRIVE between these two fabulous word processors ever published in a CPC magazine.

TIPS

If you can send in any hints, questions, useful machine pokes or short pieces of code you could win a prize. If you'd like to share that problem or unique knowledge you may have, get in touch with us at:

Q&A TIPS,
CPC ATTACK,
HHL Publishing,
Floor 3, Greater London House,
Hampstead Road, London NW1 7QQ
or fax: 071-387 9518

The Proof Reader printout in the March 1992 issue of ACU, Page 55, was incorrect. It was Line 310 wot did it guv, honest! For all you type-its out there, the line should read:

310 REM sc=pr 'Add this line when using LIST#8. Observe however, that the proofcodes may be lost if the printer buffer happens to be full. [8A]

The following program is an alternative cure to the problem of taking out ROMS due to lack of memory. It will disable the ROMs, freeing RAM for other programs.

Simply type "CALL &A000, followed by the ROM numbers to be disabled i.e. CALL A000,ROM1,ROM2, etc..

WARNING: This routine will reset the CPC. If you type CALL A000 by itself, you will disable all ROMs, including the disk ROM! So be careful.

```
10 MODE 2:MEMORY &9FFF:FOR i=&A000 to &A046: READ c$
20 c=VAL("&"+c$:POKE i,c:s=s+c:NEXT
30 IF s<>7962 THEN PRINT "ERROR!!!!":LIST
40 PRINT "call &A000,a,b,c.... etc. to leave selected ROM numbers on"
50 DATA 21,46,A0,77,B7,CA,14,A0,47,23,DD,7E,00,77,DD,23,DD,23
60 DATA 10,F5,0E,00,21,1C,A0,CD,16,BD,3E,C9,32,CB,BC,3A,46,A0
70 DATA B7,CA,3F,A0,47,DD,21,47,A0,11,40,00,21,7F,AB,C5,DD,4E
80 DATA 00,CD,CE,BC,C1,DD,23,10,F4,DF,42,A0,06,C0,00,00
```

I have a solution to the use of a MP2 modulator to output to a VCR. I came across the same problem a few months ago. You can tune the VCR into the MP2 using the manual potentiometer, rather than using the video auto-tune. This gives a really good output, but another alternative is to ignore the MP2 and buy a SCART lead to connect between the CPC keyboard and the VCR.

Mike Parkins, Helensburgh.

Erm, interesting. Although your first solution may work, doesn't this disrupt the normal input of the VCR? I'm not sure about using a SCART lead - I don't think that VCR's accept RGB signals.

Here is a PD listing which allows the loading of ART STUDIO pictures from BASIC.

```
1 'Advanced Art Studio screen loader v.1
2 '24.6.89 Public Domain by David Carter.
3 'This will not set the border or the mode!
4 '
50 CAT:INPUT "Enter Filename:",filename$
60 DIM inks(15):i=-1
70 MEMORY &8000:LOAD filename$+".pal",&8000
80 FOR x=&8000 to &80C8 STEP 12
90 c$=CHR$(PEEK(x))
100 RESTORE 170
110 FOR q=0 TO 26:READ in,q$
120 IF c$=q$ THEN GOTO 130 ELSE NEXT q:GOTO 140
130 i=i+1:inks(i)=in
140 NEXT x
150 FOR a=0 TO 15:INK a,inks(a):NEXT a
160 MODE 0:LOAD filename$+".scr",&C000
170 DATA 0,T,1,D,2,U,3,\,4,X,5,]
180 DATA 6,L,7,E,8,M,9,V,10,F,11,W
190 DATA 12,^,13,@,14,_,15,N,16,G
200 DATA 17,O,18,R,19,B,20,S,21,Z
210 DATA 22,Y,23,[,24,J,25,C,26,K
```

NEXT MONTH



DON'T MISS



TEST DRIVE: The top CPC Word processors, Protext and Brunword, fight it out. Look out for a massive in-depth study into the programs.

CPC ANSWERS: Another massive helping of technical advice and tips.

REVIEWS: This issue wasn't big enough for all of ATTACK!'s full in-depth game reviews - next month it'll be different!

COMPLETE CONTROL: Rainbow Islands - the first four islands dissected.

plus

All the regulars - The Dungeon, Public Sector, Amy's PM&T, Poster Power, and loadsa tutorials.

JULY ISSUE ON SALE: 4th June 1992

CPC ATTACK - SERIOUS.....BUT NOT TERMINAL....

SURVEY

WANTED

Your honest to goodness opinion of CPC ATTACK!

Every month you'll be able to tell us exactly what you think of CPC ATTACK! We'll be locked up one day every month studying the mini-surveys at great length to further improve the mag. Impossible, you may think - we do too, but we'll try anyway.

Which machine do you own?

CPC464.......... ☐
CPC6128.......... ☐
CPC464 PLUS.......... ☐
CPC6128 PLUS.......... ☐
GX4000.......... ☐
OTHER (please specify).......... ☐

Do you own and of the following?

64k MEMORY EXPANSION.......... ☐
TAPE DRIVE.......... ☐
3in. DISC DRIVE.......... ☐
3.5in. DISK DRIVE.......... ☐
HARD DRIVE.......... ☐
PRINTER.......... ☐
ROMBOX.......... ☐

How do you rate CPC ATTACK?

Bogus.......... ☐
Excellent.......... ☐
Not bad.......... ☐
Crap.......... ☐
Extreme.......... ☐

Would you like to see a cover-mounted TAPE (not disc)

With games.......... ☐
With programs.......... ☐
With both.......... ☐
No Thanks.......... ☐

How did you rate the following:

COVER........../10
TOP 50 GAMES........../10
CONSOLE CRAZY........../10
3D POSTER/GLASSES........../10
PRINTER BUYERS' GUIDE........../10
Q&A........../10
LETTERS........../10
NEWS........../10
THE DUNGEON........../10
PUBLIC SECTOR........../10
POKES, MAPS, TIPS........../10
BASIC TUTORIALS........../10
DEMO TUTORIAL........../10
SPECIAL OFFERS........../10
THE ISSUE OVERALL........../10

Please rate out of 10 this and any other magazines you read (they don't have to be computer related):

CPC ATTACK........../10
ACU........../10
........../10
........../10
........../10

What would you like to see in a future issue of CPC ATTACK?

I would like to see..........
....

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NEW
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NEW
GENERATION
THE QJ FOOT-PEDAL
QUICKJOY
ENHANCE YOUR HOME VIDEO GAMES
. . . Sometimes just using a Joystick is not enough to beat today's generation of computer games . . .
The Foot Pedal Controller works in conjunction with a Joystick . . . By aligning any three of the Joystick functions to synchronise with the Foot Pedals it enhances any multi-functional game that includes flying, driving or playing sports . . . games-playing will never be the same . . .
SV-129
EXAMPLE
In a car racing game:
FAST
Change Gear
LEFT
RIGHT
SLOW
using joystick and Foot pedal together
NO USE
LEFT
RIGHT
NO USE
Change Gear
SLOW
FAST
This setting transfers the up, down and fire controls from Joystick to 3, 2, 1 buttons of Foot Pedal respectively.
SET UP
COMPUTER
• Simply plug any standard 9-Pin Joystick into the cable supplied.
• Connect the Foot Pedal into your Computer - Amiga, ST, C64, 128, Vic20, Amstrad CPC, Spectrum (with interface), BBC (with interface).
• The Foot Pedal is now ready to use.
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